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**Commonwealth of Massachusetts  
Executive Office of Health and Human Services**



**Technical Specifications Manual  
for  
MassHealth Hospital P4P Measures  
Appendix G 2008 Reporting  
(Version 1.3)**

**December 20, 2007**

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## Section 1: Introduction

The Massachusetts Executive Office of Health and Human Services (EOHHS) provides this manual as a supplement to the Rate Year 2008 Acute Hospital RFA contract. This **EOHHS Measures Technical Specifications Manual (Version 1.3)** contains information to assist Hospitals in the implementation of the Appendix G RY2008 quality reporting required under the MassHealth Hospital Pay-for-Performance (P4P) Initiative.

To minimize reporting burden every effort has been made to align Appendix G quality requirements with national standards for hospital measurement and reporting systems endorsed and supported by the National Quality Forum, Centers for Medicare and Medicaid Services (CMS), Joint Commission of Accreditation of Healthcare Organizations (JCAHO) and other stakeholder groups concerned with quality.

### a) Using the Specifications Manual

This manual is intended to be used in conjunction with the other national technical specifications manuals posted on the QualityNet, Joint Commission, and Leapfrog Group public websites. Hospitals are responsible for accessing all Specification Manuals, updated Release Notes, and data tools available for community acquired pneumonia, surgical care infection prevention, neonatal and children's asthma measures that apply to reporting requirements.

This manual is designed to be used as a quick reference guide and provides information on:

- New standards for data collection and submission guidelines for measures data reporting required in Section III and IV of Appendix G RY2008;
- Specifications for quality measures not existing in national specifications manuals;
- Modified instructions that apply for collecting and submitting hospital quality measures data being reported to national quality initiative programs;
- Appendices that contain materials relevant to MassHealth data collection and reporting.

EOHHS reserves the right to make changes to specifications contained in this manual during the RY2008 to improve reliability and accuracy of data measurement and reporting as needed. Hospitals will be notified of any updates and/or supplements to the **EOHHS Measures Technical Specifications Manual (Version 1.3)** via the designated email listed below (and in Section I, Appendix G). Updated manuals or supplements will also be posted on EOHHS website [www.mass.gov/masshealth](http://www.mass.gov/masshealth) under "MassHealth Regulations and Other Publications" then click onto link on "Special Notices for Hospitals".

### b) EOHHS Contact Information

The MassHealth Hospital Pay-for-Performance (P4P) Initiative is operated by the Massachusetts Executive Office of Health and Human Services MassHealth Office of Acute and Ambulatory Care. For questions about Appendix G RY2008 quality measures reporting requirements or information contained in this manual please contact:

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600 Washington Street  
Boston, MA 02111  
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The vendor that will provide support to EOHHS on implementation of Hospital data collection, analysis and reporting activities for performance measures data required in Appendix G RY2008 is Masspro.

### c) Summary of Changes to Version 1.3

The information contained in EOHHS Measures Technical Specifications Manual (Version 1.3) supersedes all information in previous version (1.2). A summary of updates or substantive changes made to the content of this manual is provided below.

Section	Location	Description of Change	Rationale	Page
<b>Section 1</b>		None	None	
<b>Section 2</b>	2.b	<b>General Data Elements</b> - renamed sub-header, edited text and deleted Table 2.	Clarify language	<b>4</b>
	2.c	<b>Data Dictionary</b> --- deleted previous text and rewrite entire text to describe purpose, content and how to access dictionary files.	Clarify language	<b>5</b>
	2.d	<b>Medicaid Payer Source</b> – add sentence at end to clarify exclusion for Healthy Start/CMSP populations.	Clarify requirement	<b>5</b>
	2.h	<b>Data Abstraction Tool</b> – create new subheader and edit text.	Clarify requirement	<b>5</b>
<b>Section 3</b>	3.a.1	<b>MassHealth Payer File</b> –delete text referencing section 3.b. below. Insert sentence describing file content.	Clarify language	<b>6</b>
	3.a.3 text	<b>Content of Data Files</b> - relabeled Table 2, insert additional text after table paragraph to clarify technical requirements for web portal acceptance.	Clarify language	<b>6</b>
	3.b	<b>Data Submission Schedule</b> – delete Table and edit text to reference location of submission due dates in RFA.	Clarify language	<b>6</b>
	3.2.d	Measures – edit reference to NHQM specs from ver 2.3a to 2.3b	Clarify requirement	<b>8</b>
<b>Section 4</b>		None	None	
<b>Section 5</b>	Text	<b>Submission Due</b> – edit text to reference location of calendar submission due date in RFA.	Clarify language	<b>34</b>
<b>Appendix</b>	A-1	<b>Medicaid Payer Source Table</b> – insert two population code exclusions (Healthy Start & CMSP). Reference on payer code 103.	Clarify requirement	<b>35</b>
	A-5	<b>MAT-1 Abstraction Tool</b> – edit text on item #1 payer source selection to Primary Care Clinician Plan	Correct data label	<b>40-42</b>
	A-6	<b>MAT-2 Abstraction Tool</b> – add hospital patient ID (MR) and edit text on item #1 payer source selection to Primary Care Clinician Plan	Correct data label	<b>43-45</b>
	A-7	<b>NICU-1 Abstraction Tool</b> – edit text on item #1 payer source selection to Primary Care Clinician Plan	Correct data label	<b>46-48</b>
	A-8	<b>CAC-1a Abstraction Tool</b> – edit text on item #1 payer source selection to Primary Care Clinician Plan	Correct data label	<b>49-50</b>
	A-9	<b>CAC-2a Abstraction Tool</b> – edit text on item #1 payer source selection to Primary Care Clinician Plan	Correct data label	<b>51-52</b>
	A-10	<b>Maternity XML Schema</b> – refer to and use Excel version 1.3 file.	Clarify Sequencing	<b>53-66</b>
	A-11	<b>Neonate XML Schema</b> - refer to and use Excel version 1.3 file	Clarify Sequencing	<b>67-78</b>
	A-12	<b>Pediatric Asthma XML Schema</b> - refer to and use Excel version 1.3 file	Clarify Sequencing	<b>79-89</b>
	A-13	<b>MassHealth Crosswalk XML Schema</b> - refer to and use Excel version 1.3 file	Clarify sequencing	<b>90-93</b>
	A-14	<b>Data Dictionary</b> – define data elements for maternity, neonate, pediatric asthma and MassHealth crosswalk file.	New Insert	Separate paging

**Explanation of Table Content.** Summary of changes are organized under five headers as follows:

- *Section* – identifies the key sections in manual as listed in the table of contents.
- *Location* – identifies the sub-section of manual where changes were made.
- *Description of change* –brief explanation of edits made to text (reword, add, delete, correct, modify).
- *Rationale* –states reason for change included in this version of the manual (new insert, clarify).
- *Page* – lists page number in manual where change was made.

## Section 2. Data Collection Guidelines

This section provides information on the data collection standards that apply to all Appendix G RY2008 measures reporting. Hospitals are required to collect and report data on all the measures set they are eligible to report on based on population patient mix served and the type of service offered by the facility (e.g.; obstetrics, neonates, pediatrics, etc.).

- a) **MassHealth Pay-for-Performance (P4P) Measures.** The measure sets are summarized in Table 1 below.

**Table 1. MassHealth P4P Measure Sets**

Measure ID #	Measurement Category and Name	Specifications Manual Reference
MAT-1 MAT-2	<b>Maternity</b> Intrapartum Antibiotic Prophylaxis for Group B Streptococcus Perioperative Antibiotics for Cesarean Section	EOHHS Manual EOHHS Manual
NICU-1	<b>Neonate</b> Neonatal Intensive Care – Administration of Antenatal Steroids	Leapfrog Group
CAC-1a CAC-2a	<b>Pediatric Asthma</b> Children's Asthma Care - Inpatient Use of Relievers Children's Asthma Care - Inpatient Use of Corticosteroids	JCAHO JCAHO
SIP-Inf1a SIP-Inf2a SIP-Inf3a	<b>Surgical Infection Prevention</b> Prophylactic antibiotic received within 1 hour prior to surgical incision Appropriate antibiotic selection for surgical prophylaxis Prophylactic antibiotic discontinued w/in 24 hrs after surgery end time	NHQM NHQM NHQM
PN-1 PN-3b PN-4 PN-5b PN-6	<b>Community Acquired Pneumonia</b> Oxygenation assessment Blood culture performed in ED prior to first antibiotic received in hospital Adult smoking cessation advice/counseling Initial antibiotic received within 4 hrs of hospital arrival Appropriate antibiotic selection for CAP in immuno-competent patients	NHQM NHQM NHQM NHQM NHQM
HD-1	<b>Health Disparities</b> Cultural and Linguistic Appropriate Service Standards (CLAS)	EOHHS Manual

As noted in the Table 1, specifications for the maternity and health disparities measures are contained in this EOHHS manual. Specifications for remaining measures are contained in following national manuals:

- *Specifications Manual for the National Hospital Quality Measures (NHQM)* versions 2.1d, 2.2b, 2.3 and relevant updates available at URL: <http://www.qualitynet.org>
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO) *Current Specifications Manual for the National Hospital Quality Measures* version 2.3 and relevant updates available at URL: <http://www.jointcommission.org>
- *Leapfrog Group Nationally Endorsed Process Measures Specifications* version 4.0 and relevant updates available at URL: <https://leapfrog.medstat.com/pdf/process.pdf>

Hospitals are responsible for accessing and adhering to data collection instructions contained in the above National Specification Manuals, including release notes, and addendums that apply to modifications of measures for their discharge data periods. Hospitals must make the appropriate adjustments relevant to the discharge data periods required in Appendix G RY2008 for all measures listed in Table 1 when preparing submission files.

- b) **General Data Elements:** Hospitals are required to report general clinical and administrative data elements (e.g.: ICD population, patient-level data, unique key identifiers, sampling, payer source, race, ethnicity) required to calculate all measurements. A list of general data elements are outlined in Specifications Manual of NHQM (Section 1). EOHHS requires modification to the general data elements (e.g.: payer source, race, ethnicity) and additional data elements as defined in Section 2d and 2 e and Section 3a.2 of this manual.

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- c) **Data Dictionary:** A set of data dictionaries are provided as an addendum (Appendix A-14) to this manual to assist in preparing the maternity, neonate, pediatric asthma measures, and MassHealth Crosswalk data files. The data dictionary includes information on definitions, allowable values and formatting of the data elements to assist in processing patient-level data.

All Hospitals must adhere to the instructions contained in these data dictionaries. This resource will be disseminated to hospitals via the EHS designated mailbox and posted on mass.gov website as stated in page 1.a of this manual.

- d) **Medicaid Payer Source:** The MassHealth population covered by the Acute Hospital RFA are those members where Medicaid is the primary payer as follows:

- **Included Populations:** members enrolled in the Primary Care Clinician (PCC) Plan and covered by fee-for service methods under 65 years of age. These members are captured under DHCFP payer codes 103 (including patients with MH Limited coverage) and 104.
- **Excluded Populations:** members enrolled in any of the following:
  - four MassHealth managed care plans (Boston Medical HealthNet, Network Health, Fallon Community, NHP)
  - who are dually eligible (covered by Medicaid and Medicare or Medicaid and HMO; Medicaid and Commercial plan);
  - in Healthy Start or Children's Medical Security Plan; and
  - over 65 years of age.

The Massachusetts Medicaid payer code definitions used by the Division of Healthcare Finance and Policy (DHCFP) differ slightly from the national hospital quality reporting. Hospitals must use the DHCFP Medicaid payer source codes when preparing the MassHealth payer data files for submission (see Appendix A-1).

- e) **Race and Ethnicity Codes:** The Massachusetts DHCFP regulations requires all Hospitals to collect and report hospital discharge data by race and ethnicity effective January 1, 2007. The DHCFP instructions and race/ethnicity codes differ slightly from ones required for national hospital quality reporting. Hospitals must use the DHCFP race/ethnicity codes when preparing the MassHealth payer files for submission (see Appendix A-2).
- f) **XML File Layout:** Hospitals are required to collect all measures data using an XML file layout format based on guidelines described for data transmission in the Specifications Manual of the NHQM (Section 9). Adherence to XML file schema is important to decreasing variation in data collection and critical to data collection compliance. XML file layout schema for the maternity, neonate and pediatric asthma measures are provided in the appendices of this manual. XML schema for pneumonia and surgical infection prevention measures are available in the Specifications Manual for NHQM at the QualityNet website.
- g) **MassHealth Population Sampling:** Hospitals are required to select a representative part of the ICD population using a statistically valid sampling methods based on principles similar to the Specifications Manual of the NHQM (Section 4) for each measure shown in Table 1 above. EOHHS provides sampling criteria to guide chart abstraction in Appendix A-3 of this manual.
- h) **Data Abstraction Tools:** Tools for chart data abstraction are also provided in this manual (see Appendices A-5 to A-9) to facilitate standardized collection of measures information for the MassHealth payer data file. The data abstraction tools are designed to be used in conjunction with the data dictionary and XML schemas outlined in the Appendices.

## Section 3. Data Transmission Guidelines

This section outlines the new standards and guidelines for Appendix G reporting requirements that apply in RY2008. All Hospitals must adhere to and comply with instructions set forth in this section for preparing and submitting performance measures data.

- a) **Electronic File Format:** All Hospitals must submit electronic data files using XML layout format. Each XML file may contain data for only one admission per each provider Hospital. Each measure set must be submitted in two separate data files as follows:
- 1) **MassHealth Payer File:** This file should include all measures data on MassHealth members only for discharge periods stated in the RY2008 Acute Hospital RFA and any amendments thereto. The MassHealth payer file must include the relevant payer source, race and ethnicity data elements defined in Section 2d and 2e of this manual. Refer to the XML schemas provided in Appendices A-10 to A-12 for all data elements required in this file.
  - 2) **MassHealth Identifier Crosswalk File:** This file should include administrative data elements that link your Hospitals' patient identifier codes to unique MassHealth patient identifier codes (MassHealth Recipient ID number, Recipient Social Security Number, Hospital billing number, DHCFP payer source, DHCFP race/ethnicity).

The MassHealth unique identifiers are required for EOHHS to make incentive payments on MassHealth discharges. Refer to Appendix A-13: XML schema for all data elements required in this file.

- 3) **Contents of Data Files:** A summary of measures required in each file is provided in Table 2.

**Table 2. Contents of Data Files**

Measure	MassHealth Payer File	MassHealth Crosswalk File
MAT-1	YES	NO
MAT-2	YES	NO
NICU-1	YES	NO
CAC-1a	YES	NO
CAC-2a	YES	NO
PN (PN-1, 3b, 4, 5b, 6)	YES	YES
SIP (SIP-Inf-1a, 2a, 3a)	YES	YES

As shown in Table 2, the 'MassHealth Payer File' requires all measures listed be included. This file must also include the appropriate MassHealth sample data for each measure as defined in Appendix A-3 of this manual. The 'MassHealth Crosswalk File' is required only for the pneumonia (PN) and surgical infection prevention (SIP) measures. The data files should include one file per admission on each of the measures you are eligible to report on.

Electronic files that contain partial information or do not contain all the data elements required to calculate category assignments and measurements will be rejected by the web portal. Any failure to comply with the technical data requirements, as described under Sections 2 and 3 of this manual, will result in data being credited by the MassQEX web portal as not received.

- b) **Data Submission Schedule:** Aggregate data files containing the appropriate discharge quarters must be submitted to the EOHHS designated portal by the due dates stated in the RY2008 Amended and Restated Acute Hospital RFA and any amendments thereto.

All electronic data files must be received by the close of business day of submission due dates as stated above. **No extensions will be granted.** Hospitals that do not meet the submission due dates will not be eligible to receive incentive payments on performance measures.

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- c) **Web Portal Address:** EOHHS has designated the “*MassHealth Quality Exchange*” as the secure portal to be managed by the Masspro vendor. All Hospitals are required to use this portal to submit and exchange all measures data files. The URL address for the “*MassHealth Quality Exchange*” portal is: <http://www.mass.gov/masshealth/massqex> and will be accessible by **December 1, 2007**. This portal is the only EOHHS approved method for the electronic transmission of private data between Hospitals and its vendor.
- d) **Web Portal Features.** The web portal has been designed to resemble existing web sites for national data collection projects in order to leverage as many existing tools, formats and knowledge as possible. The portal is divided into three sections: accounts, data system requirements for submission and reporting. Each section is described below.
- 1) **Hospital User Accounts.** Masspro personnel will set up and configure all user accounts for accessing the web portal. There will be at least two accounts per provider specified as ‘Site Administrator’ accounts. New users will be required to submit completed registrations forms to Masspro before being granted access to the secure web portal. Below are the steps to register a new user:
    - The new user will complete a registration form and then sign and date it in the presence of a Notary Public, who will obtain the Notary’s stamp and seal on the form
    - For ‘Site Administrator’ users, the highest-level executive at the provider site will complete and sign an authorization form in order to authorize the designated individual to be the administrator user at the site.
    - Originals of the completed forms will be mailed to Masspro for account creation.
    - Once an account has been setup, a user will have the ability to edit user demographic information.

The portal will provide instructions for setting up a password and be equipped with a ‘forgot my password’ option that will have the following functionality:

- A temporary password, valid for one time use, will be transmitted to the user’s registered email account.
  - Upon logging in, the user will be required to answer one of their security questions, after which they will be prompted to enter in a permanent password.
  - The temporary password will expire if it is not used within one hour.
- 2) **Data System Requirements.** The web portal’s data submission tool allows users to securely transmit data files to the web portal. Listed below are the requirements for transmitting data. Any deviation from the requirements listed below may result in data submissions not being processed. The System Requirements are:
    - Minimum of a Pentium II 233 MHZ or better with a minimum of 125MB free disk space
    - Windows 2000 or higher
    - 64MB of RAM or higher
    - High speed internet connect of 128 kbps or higher
    - Internet Explorer 6 service pack 1 or higher
    - Browser security level of Medium or lower
    - Adequate operating system rights to allow provider sites to properly install programs and modify/edit registry entries
    - Pop-ups allowed for URL <http://www.mass.gov/masshealth/massqex>.
    - Java Runtime Environment (JRE) version 1.4.2\_05 or higher. Available for download from <http://java.sun.com/j2se/desktopjava/jre/index.jsp>



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**2a) System Test.** Users can test their system's readiness by going to <http://www.mass.gov/masshealth/massgex> and conducting a System Test. The test will scan the system for the following information:

- JavaScript enabled browser
- Java enabled browser
- Applet enabled browser
- Java version 1.4.2\_05 or higher
- Java Security Policy Files

If a system does not pass one of the scans, the user will receive instructions as to what corrective actions are needed. When a successful test has been conducted, the user will receive notification that the portal is ready to be used.

**2b) Test Data.** Providers are required to successfully complete a test submission for each of the reporting measures. Certification of successful transmission is required prior to the permission being granted for production level submissions. This certification will serve as proof that a provider's system is capable of generating properly formatted XML files based on CMS, JCAHO and MassHealth XML schemas.

Below is some additional information about using the data submission tool to run test submissions:

- Test files will be processed in a near real time environment.
- The user will be able to access reports that show summary success or failure information as well as detail reports that provide detailed descriptions of errors detected in a test submission.
- All errors must be addressed before certification of a measure can be given.
- There is no limit to the number of test files that can be submitted.
- Test files will not be permanently stored on Masspro's servers.

**2c) Data Upload.** Providers are required to use Masspro provided upload software for the transmission of data to the web portal. The upload application provides:

- Single and multiple file data submission
- Data compression to reduce transmission sizes
- Data encryption utilizing asymmetric key pairs
- Filename
  - Name cannot exceed 45 characters
  - Filenames are limited to the following character ranges
    - a – z
    - A – Z
    - 0 – 9
  - Underscores will replace spaces in all filenames
  - Filenames containing illegal characters will not be uploaded or processed

Upon completion of data transmissions, users will be able to run reports that show the success or failure of processing. Once submitted, data files cannot be deleted.

**2d) Measures.** The maternity and neonate measures are supported by the portal as they have been defined by EOHHS MassHealth. The pneumonia, surgical infection prevention and pediatric asthma measures utilize the National Hospital Quality Measure Data Transmission specification versions for use with discharge dates is listed below.

ver 2.3b	10/01/2007 – 03/31/2008 (vers 2.3b)
ver 2.2b	04/01/2007 – 09/30/2007 (vers 2.2b)
ver 2.1d	10/01/2006 – 03/31/2007 (vers. 2.1d)
ver 2.0b	07/01/2006 – 09/30/2006 (vers. 2.0b)

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3) **Report Repository.** The web portal is equipped with an online report repository. Reports generated for existing report specifications as well as for processing of test and production level data can be viewed and printed online in a PDF format.

- e) **Customer Support.** Masspro vendor support is available 9 a.m. – 5 p.m., EST Monday through Friday. Masspro support will respond to any reported issue within one business day. Masspro staff is available to work with both the provider's internal staff and vendor staff to assist in the understanding and implementation of XML specifications and technical aspects of data collection and data transmission procedures outlined in this manual.

Masspro's vendor support staff will use an internal ticket tracking system to log all user issues. This system will be used to, manage and support work loads, enter contact demographics, generate e-mail based reminders and notifications, provide historical reporting, dynamically build a support knowledge base.

The Customer Support telephone number is: **781-419-2818** and voice messages are routed directly to Masspro's support line. The designated email address to access technical support on portal related submissions and reporting is [massqexhelp@masspro.org](mailto:massqexhelp@masspro.org).

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## Section 4. Measures Specifications

### A: Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (MAT-1)

**Description:** Pregnant women who are eligible for and receive appropriate intrapartum antibiotic prophylaxis for Group B Streptococcus (GBS).

**Rationale:** Failure to provide prophylaxis to mothers of all ages who have screened positive for GBS or have other risk factors for GBS significantly increases the chances of GBS infection to the newborn and the risk of infant mortality. Administering timely antibiotic prophylaxis decreases the risk of infant infection, complications, readmissions, morbidity and mortality.

**Type of measure:** Process measure.

**Improvement noted as:** Increase in rate

**Numerator statement:** All eligible patients who receive intrapartum antibiotic prophylaxis for GBS.

**Included population:** Not applicable

**Excluded population:** None

**Data Elements:**

- *Antibiotic administered (e.g.: Penicillin G (IV), Ampicillin (IV), Cefazolin (IV), Clindamycin (IV), Erythromycin (IV), Vancomycin (IV), or Other antibiotic.*
- *Other antibiotic used for GBS prophylaxis (must be documented in medical record)*
- *Date of antibiotic administration*
- *Route of antibiotic administration*
- *Time of antibiotic administration*

**Denominator statement:** All women delivering live infants.

**Included population:** ICD-9 principal and secondary diagnosis codes for live births (as defined in Appendix A Tables 4.01, 4.02, 4.03, or 4.04 of the JCAHO Specifications Manual Version 2.2). This population must be *further* defined on the basis of the following criteria.

- Previous infant with GBS disease,
- GBS bacteriuria during current pregnancy,
- Screened and tested positive at 35-37 weeks for vaginal and rectal GBS colonization, *or*
- Unknown GBS status (culture not done, incomplete or results unknown) and any of the following:
  - Delivery at < 37 weeks gestation
  - Amniotic membrane rupture ≥18 hours, *or*
  - Intrapartum temperature ≥100.4° F (38.0° C)

**Excluded populations:**

- Patient screened negative for GBS at 35-37 weeks of delivery.
- Patients delivering via planned cesarean sections (in the absence of labor or amniotic membrane rupture).
- Patients already on antibiotics for a pre-natal maternal infection or other prophylaxis.
- Deliveries resulting in stillbirths identified by ICD-9-CM principal and secondary diagnosis codes (in any position) of V.27.1, V27.3, V27.4, V27.6, or V27.7.

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**Data Elements:**

- *Amniotic membrane rupture  $\geq 18$  hours*
- *Date of Admission*
- *Date of antibiotic administration*
- *Date of delivery*
- *GBS bacteriuria during this pregnancy*
- *Gestational age (weeks)*
- *ICD-9-CM Principal Diagnosis Code*
- *Intrapartum temperature  $\geq 100.4$  F (38.0 C)*
- *Planned cesarean section*
- *Previous infant with GBS disease*
- *Prior treatment with antibiotics less than 24 hours prior to delivery*
- *Results of GBS testing at 35-37 weeks*
- *Time of admission*
- *Time of delivery*

**Risk adjustment:** No

**Data collection approach:** Retrospective data sources for required data include administrative & medical record. Refer to MAT-1 data collection tool in **Appendix A-5** of this manual.

**Data accuracy:** Women may be receiving antibiotics at the time of delivery for a variety of reasons besides GBS prophylaxis. Hospitals may wish to pay particular attention to documenting these reasons, so that practice that deliberately differs from standards for good clinical reasons is not confused with failure to follow standards where they are applicable.

**Measure analysis suggestion:** Consideration may be given to relating this measure to antenatal screening and postnatal compliance with overall GBS guidelines. The process-owners for intrapartum GBS prophylaxis, as assessed in this measure, may include clinicians and support staff on the labor and delivery unit as well as the obstetrical admitting area. Opportunities may exist in any of these arenas which, when addressed jointly, can generate true process improvement. Attention should be given to possible decreases in infection rate and infant mortality, specifically changes over time for a total population and in underserved racial and ethnic groups.

**Sampling:** Yes. For additional information refer to **Appendix A-3** of this manual

**Data reported as:** Aggregate rate generated from count data reported as a proportion.

**Selected References:**

- Centers for Disease Control and Prevention. Perinatal Group B streptococcal disease after universal screening recommendations – United States, 2003-2005. MMWR 2007;56:701-05.
- Centers for Disease Control and Prevention. Early-onset and late-onset neonatal Group B streptococcal disease – United States, 1996-2004. MMWR 2205;54:1205-08.
- Colombo DF, Lew JL, Pedersen CA, Johnson JR, Fan-Havard P. Optimal timing of ampicillin administration to pregnant women for establishing bactericidal levels in the prophylaxis of Group B Streptococcus. Amer J Obstet Gynecol 2005;194:466-70.
- Centers for Disease Control and Prevention. Diminishing racial disparities in early-onset neonatal Group B streptococcal disease – United States, 2000-2003. MMWR 2004;53:502-05.
- Centers for Disease Control and Prevention. Prevention of perinatal group B streptococcal disease. MMWR 2002;51:1-22.
- American College of Obstetricians and Gynecologists. Prevention of early-onset group B streptococcus in newborns. Obstet Gynecol 2002;100:1405-12.
- American Academy of Pediatrics. Committee on Infectious Diseases and Committee on Fetus and Newborn. Revised guideline for prevention of early-onset group B streptococcus (GBS) disease. Pediatrics 1997;99:489-96.
- Riley L, Appollon K, Haider S, Chan-Flynn S, Cohen A, Ecker J, Rein M, Lieberman E. “Real world” compliance with strategies to prevent early-onset group B streptococcal disease. J Perinatology 2003;23(4):272-7.

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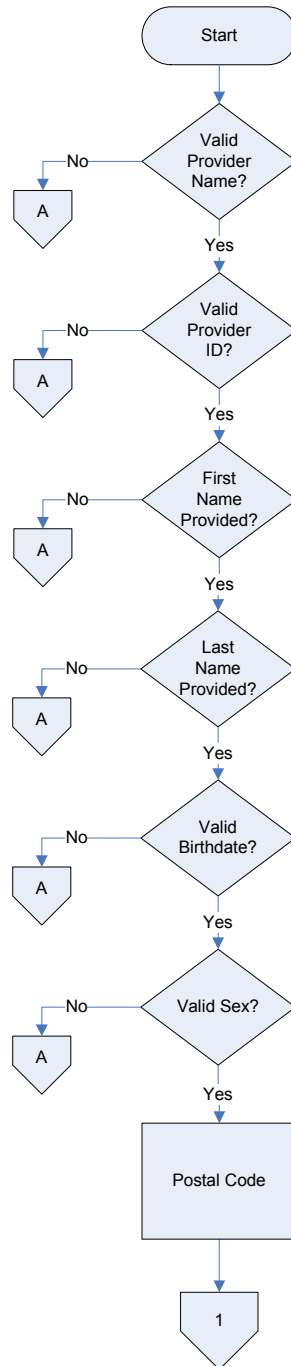
## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

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**\*Numerator:** All eligible patients who receive intrapartum antibiotic prophylaxis

**\*Denominator:** All women delivering a live infant

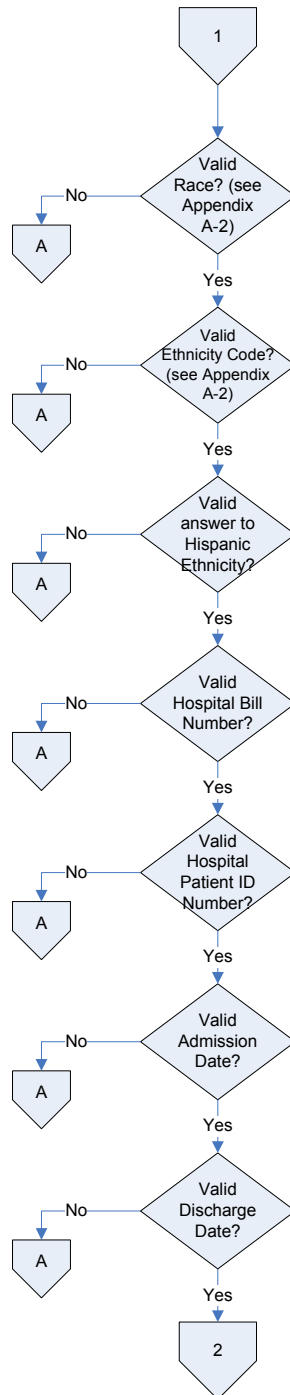
\*All cases are included in the numerator and the denominator unless otherwise specified.



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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

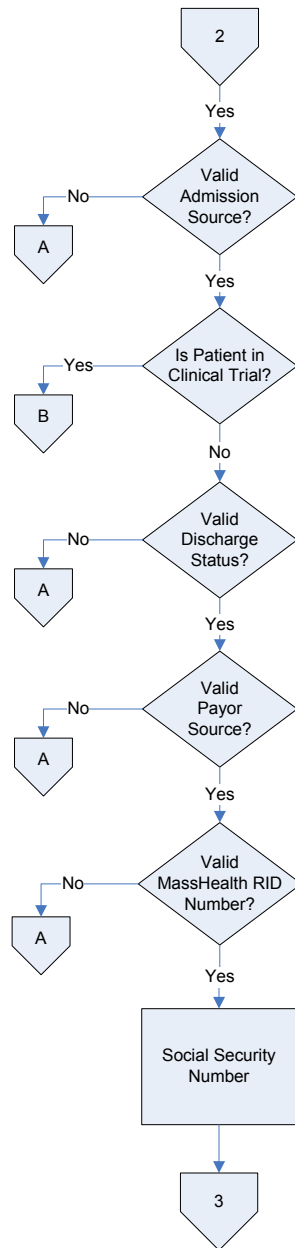
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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

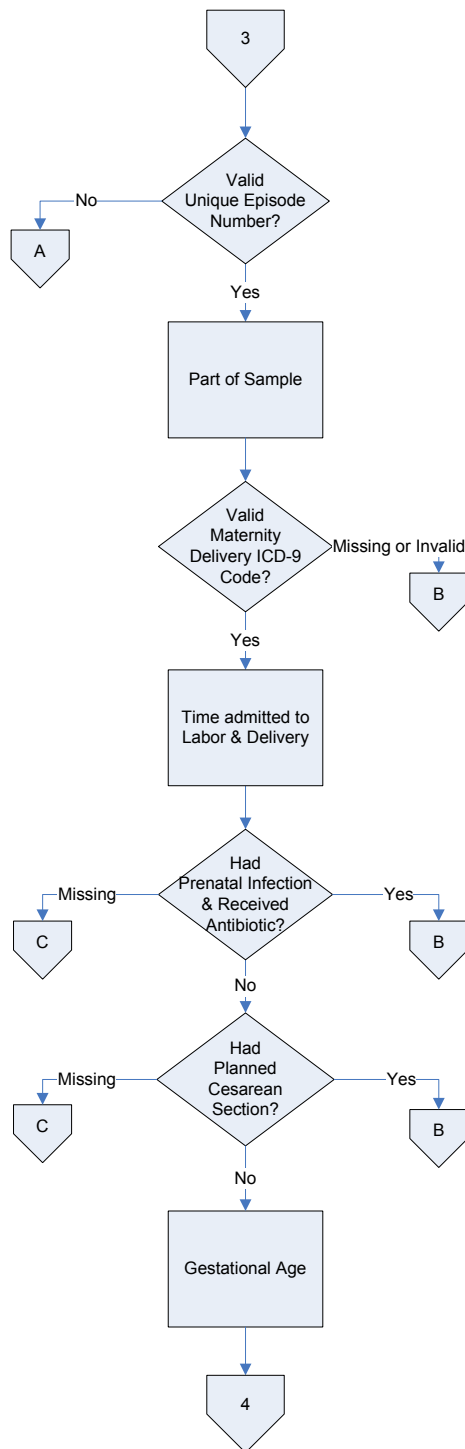
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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

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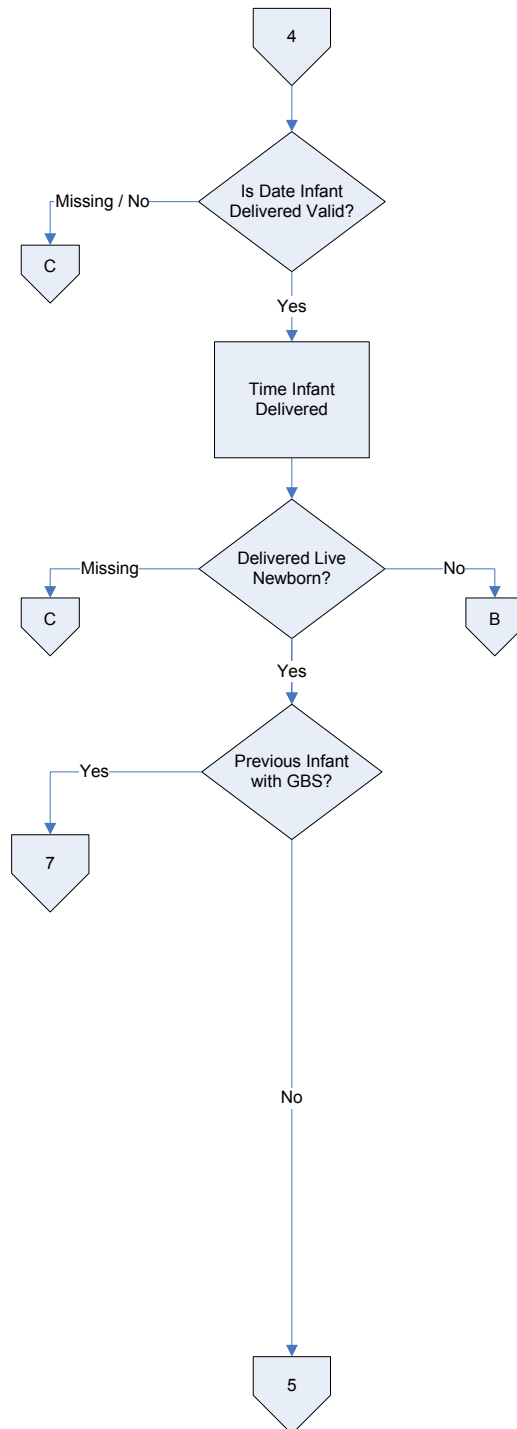




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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

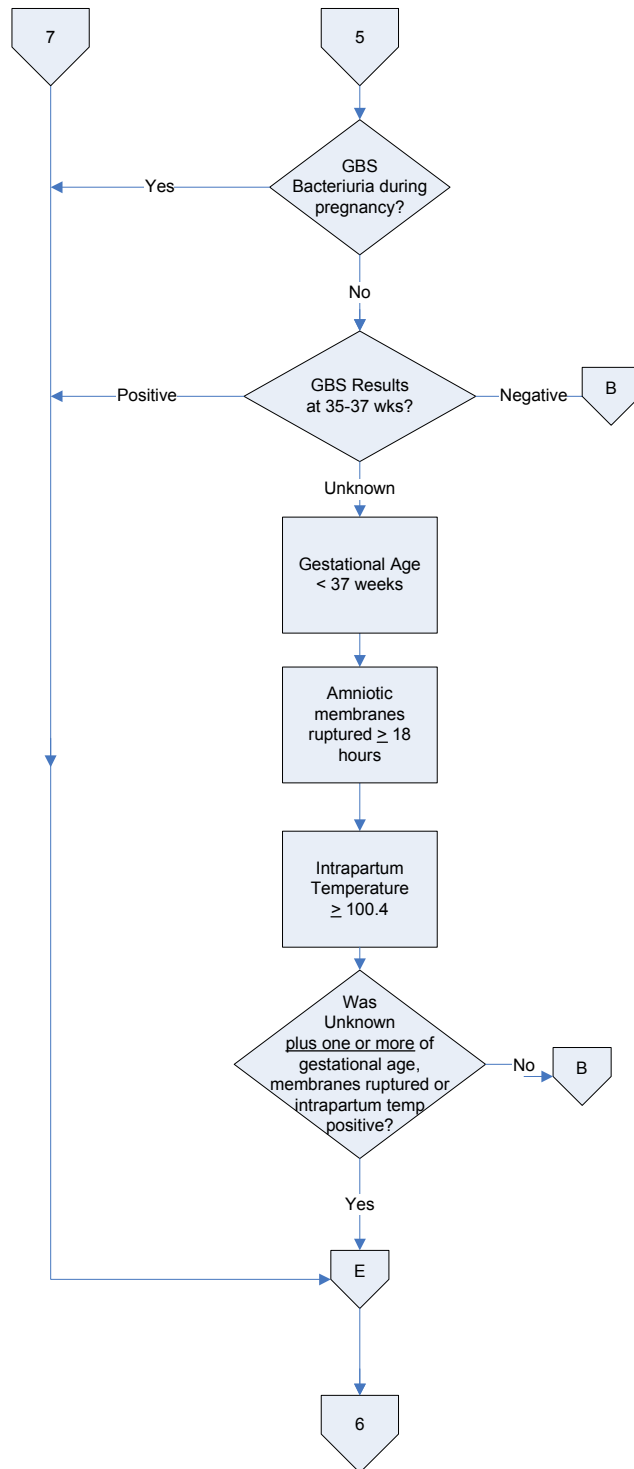
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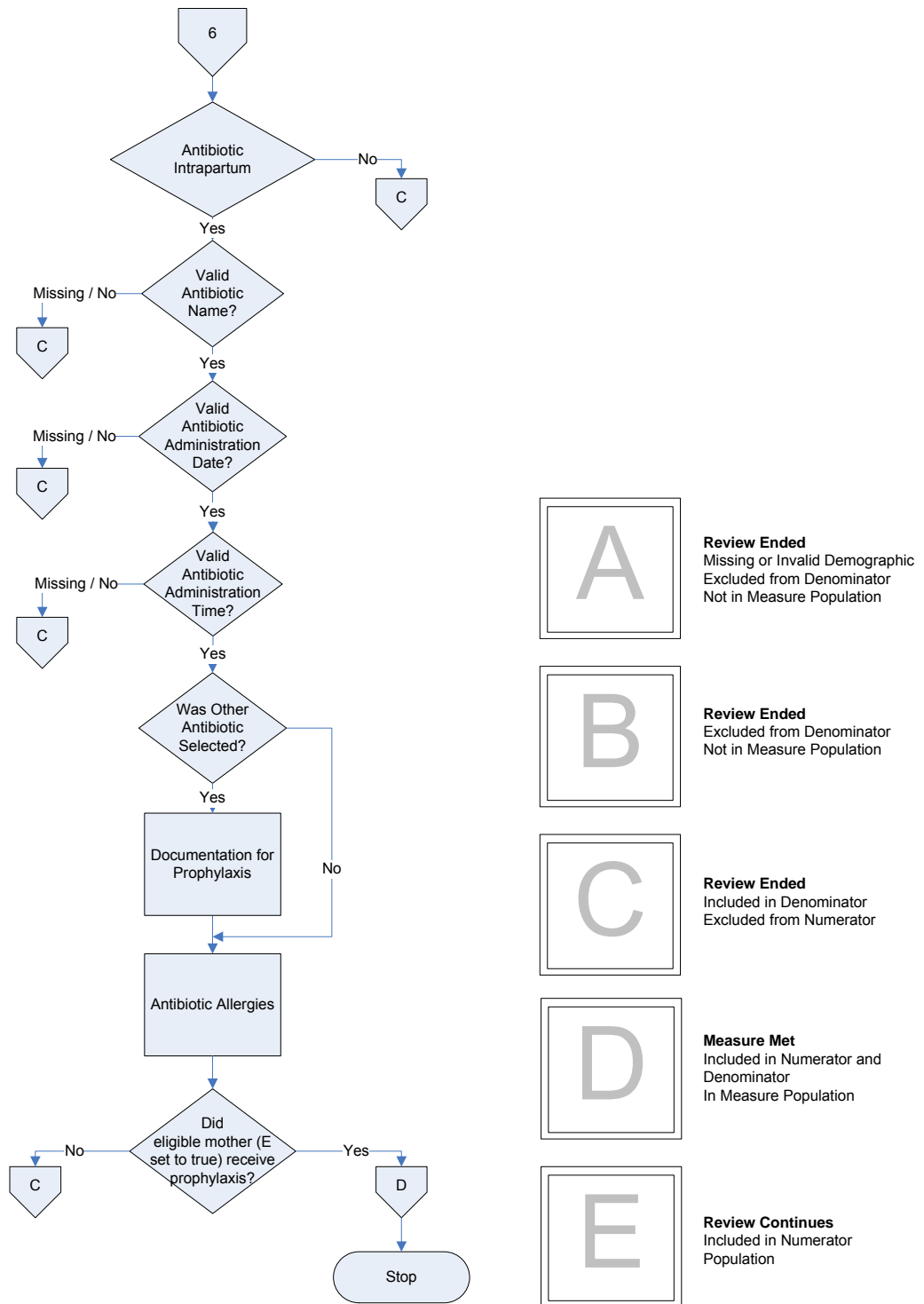
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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)

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## Intrapartum Antibiotic Prophylaxis for Group B Strep (MAT 1)



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**B: Perioperative Antibiotics for Cesarean Section****(MAT-2)**

**Description:** Patients undergoing cesarean section who receive prophylactic antibiotics within one (1) hour prior to surgical incision up to the time of delivery.

**Rationale:** Delivery of prophylactic antibiotics within an hour prior to incision time is a well-established quality and safety practice. It reduces the risk of morbidity to the mother and decreases the overall cost of care by avoiding the expense of treating postoperative infections. Over 80 well-designed studies have documented the efficacy of prophylactic antibiotics in high-risk cesarean sections (Smaill, F. and Hofmeyer, G.J. 1999; Hopkins, L and Smaill, F, 1999).

The American College of Obstetricians and Gynecologists recommends this practice both for high-risk and other cesarean deliveries. An even larger body of evidence supports the use of prophylactic antibiotics for broad classes of surgery, including operative deliveries (Dellinger et al, 1994). The larger body of evidence is generally applicable to cesarean delivery, with the notable difference that an infant is being born as the mother is undergoing surgery. Traditionally, many practitioners have preferred to defer administration of antibiotics until the time of delivery in order to avoid introducing unnecessary medications into the newborn's system, while others have found it safe and effective to administer the antibiotics shortly before the surgical incision. Current evidence and guidelines support either timing.

**Type of measure:** Process

**Improvement noted as:** An increase in the rate.

**Numerator statement:** Number of patients who received prophylactic antibiotics within one (1) hour prior to surgical incision up to the time of delivery.

**Included population:** Not applicable.

**Excluded population:** none.

**Data Elements:**

- *Antibiotic Allergy*
- *Antibiotic administered for cesarean section (e.g.: Ampicillin (IV), Cefazolin (IV), Gentamycin, or other antibiotic)*
- *Other antibiotic administered for prophylaxis (must be documented in the medical record).*
- *Date of admission*
- *Date of antibiotic administration*
- *Date of delivery*
- *Date of incision*
- *Route of antibiotic administration*
- *Time of antibiotic administration*
- *Time of delivery*
- *Time of incision*

**Denominator statement:** All patients undergoing cesarean section.

**Included population:**

- An ICD-9-CM principal procedure code for cesarean section below:
  - **74.0** (classical cesarean section),
  - **74.1** (low cervical cesarean section),
  - **74.2** (extraperitoneal cesarean section),
  - **74.4** (cesarean section of other specified type) or
  - **74.99** (other cesarean section of unspecified type).
- Patients receiving antibiotics for GBS prophylaxis

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**Excluded population:**

- Patients who had a principal ICD-9-CM diagnosis code suggestive of preoperative infectious diseases (as defined in Appendix A Table 5.09 of Specifications Manual for National Hospital Quality Measures Version 2.2).
- Patients who were receiving antibiotics within 24 hours prior to surgery *except* that prophylaxis for GBS is not a reason for exclusion.
- Patients with physician/advanced practice nurse/physician assistant/certified nurse midwife documented infection prior to cesarean section.
- Patients who undergo other surgeries within 3 days before or after the cesarean section during this hospitalization.

**Data Elements:**

- *ICD-9-CM Principal Diagnosis Code*
- *ICD-9-CM Principal Procedure Code*
- *Infection Prior to Anesthesia*
- *Other Antibiotic Prophylaxis or treatment*
- *Other Surgeries*

**Risk adjustment:** No.

**Data collection approach:** Retrospective data sources for required data include administrative & medical record. Refer to MAT-2 data collection tool in **Appendix A-6** of this manual.

**Data accuracy:** Women may be receiving antibiotics at the time of delivery for a variety of reasons besides prophylaxis against postoperative infections. Hospitals may wish to pay particular attention to documenting these reasons, so that practice that deliberately differs from standards for good clinical reasons is not confused with failure to follow standards where they are applicable.

**Measure analysis suggestion:** Improvement in compliance rates should be accompanied with decreases in the rate of postoperative infections.

**Sampling:** Yes. For additional information refer to **Appendix A-3** of this manual

**Data reported as:** Aggregate rate generated from count data, reported as a proportion .

**Selected References:**

- Dellinger EP, Gross PA, Barrett TL et al. Quality standards for antimicrobial prophylaxis in surgical procedures. *Clinical Infect Disease* 1994;18:422-7.
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- Berghella V, Baxter JK, Chauhan SP. Evidence-based surgery for cesarean delivery. *Amer J Obstet Gynecol* 2005;193:1607-17.
- Chelmos D, Hennesy M, Evantash EG. Prophylactic antibiotics for non-laboring patients with intact membranes undergoing cesarean delivery: an economic analysis. *Amer J Obstet Gynecol* 2004; 191: 1661-65.
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- Thigpen BD, Hood WA, Chauhan S, Bufkin L, Bofill J, Magann E, Morrison JC. Timing of prophylactic antibiotic administration in the uninfected laboring gravida: a randomized clinical trial. *Am J Obstet Gynecol* 2006; 192:1864-8.
- Griffiths J, Demianczuk N, Cordoviz M, Joffe AM. Surgical site infection following elective Caesarian section: a case-control study of post discharge surveillance. *J Obstet Gynaecol Can* 2005:340-4.

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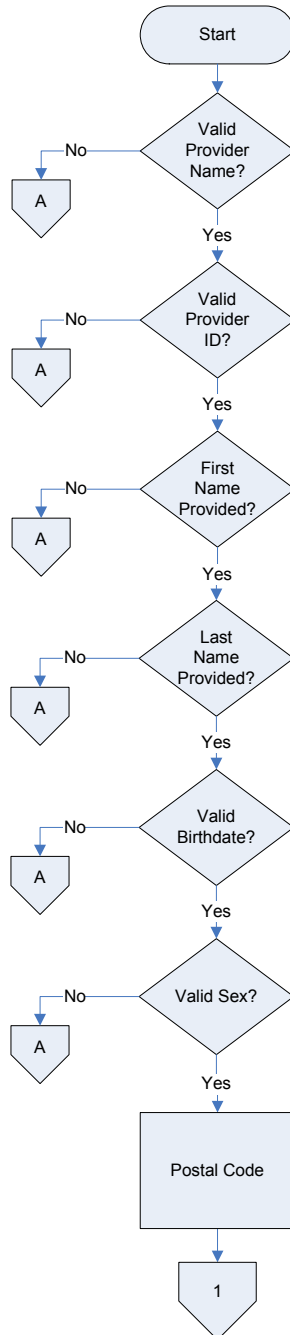
## Perioperative Antibiotics for Cesarean Section (MAT 2)

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**\*Numerator:** Number of patients who received prophylactic antibiotics within one (1) hour prior to surgical incision up to time of delivery

**\*Denominator:** All patients undergoing cesarean section

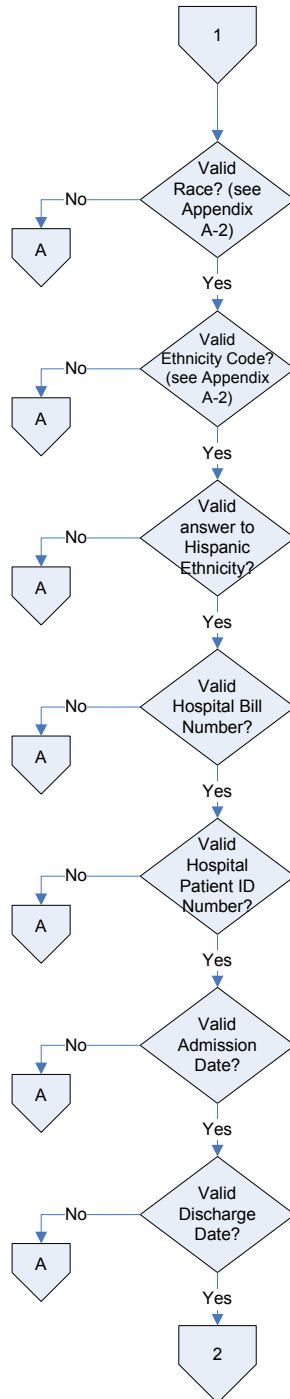
\*All cases are included in the numerator and the denominator unless otherwise specified.



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## Perioperative Antibiotics for Cesarean Section (MAT 2)

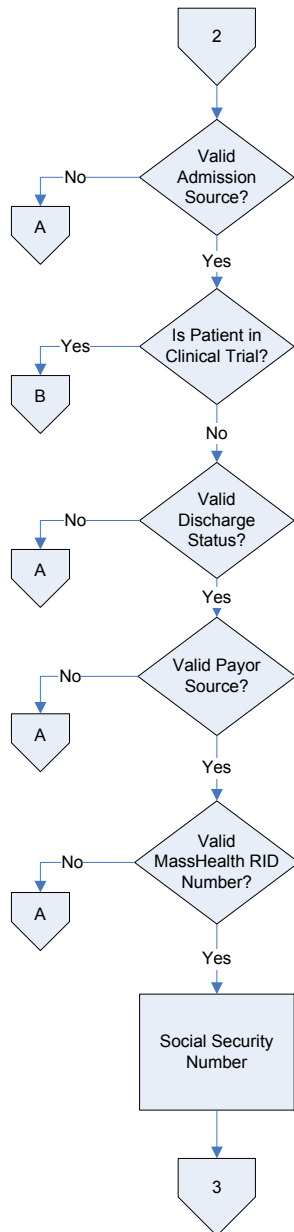
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## Perioperative Antibiotics for Cesarean Section (MAT 2)

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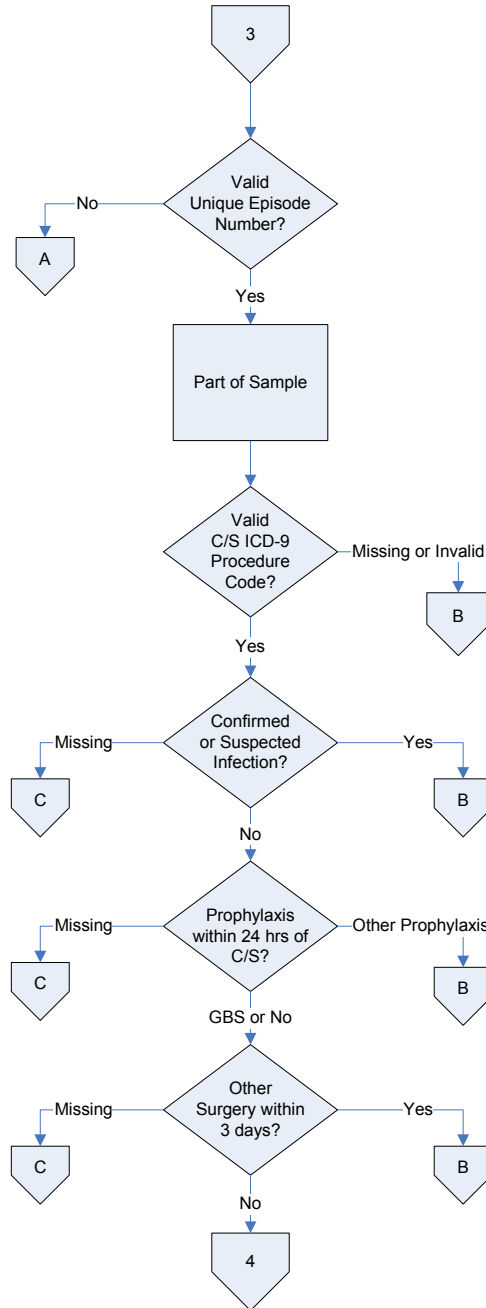




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## Perioperative Antibiotics for Cesarean Section (MAT 2)

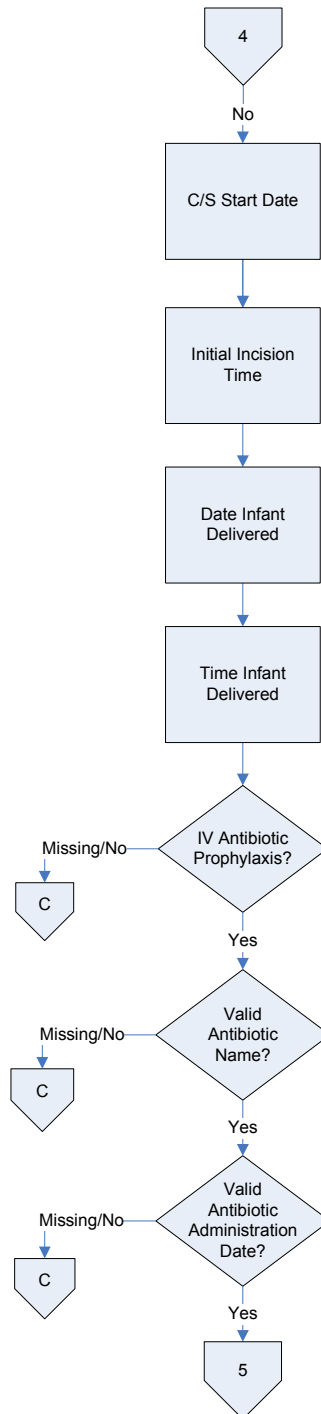
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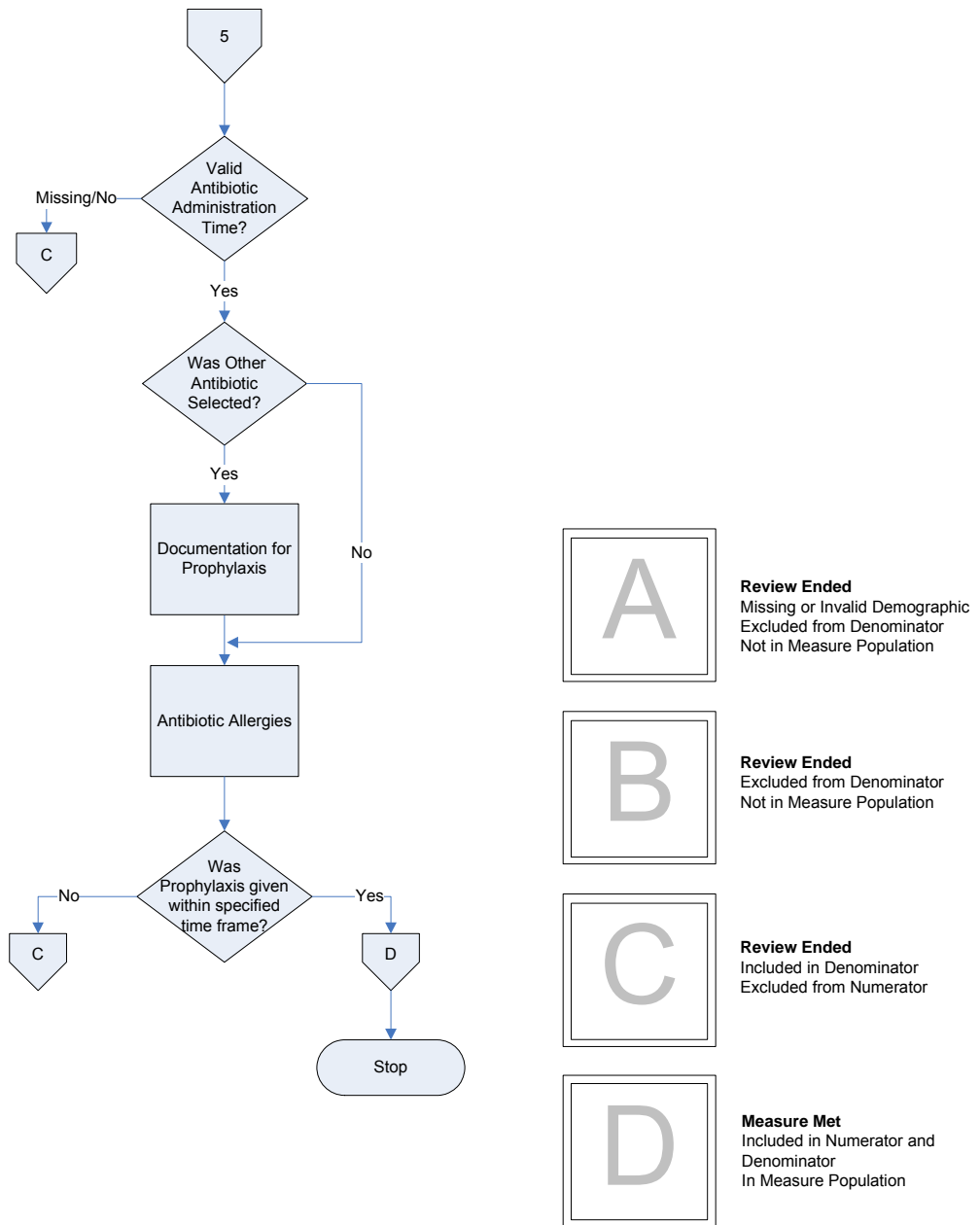
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## Perioperative Antibiotics for Cesarean Section (MAT 2)

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## Perioperative Antibiotics for Cesarean Section (MAT 2)



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## C. Neonatal Intensive Care -- Antenatal Steroids Measure

Hospitals should refer to the following instructions that apply to data collection and reporting of NICU-1 measure:

- 1) Refer to *Leapfrog Group Nationally Endorsed Process Measures* Specifications version 4.0 and relevant updates available at URL: <https://leapfrog.medstat.com/pdf/process.pdf> for preparing data on these measures.
- 2) For Medicaid Payer Codes: Refer to Appendix A-1 of this manual.
- 3) For Race/Ethnicity Codes: Refer to Appendix A-2 of this manual.
- 4) For Population Sampling: Refer to Appendix A-3 of this manual
- 5) For XML File Layout: Refer to Appendix A-12 of this manual.
- 6) For Data Abstraction Tool: Refer to Appendix A-7 of this manual.
- 7) NICU Measures Flow Chart (**see below**)

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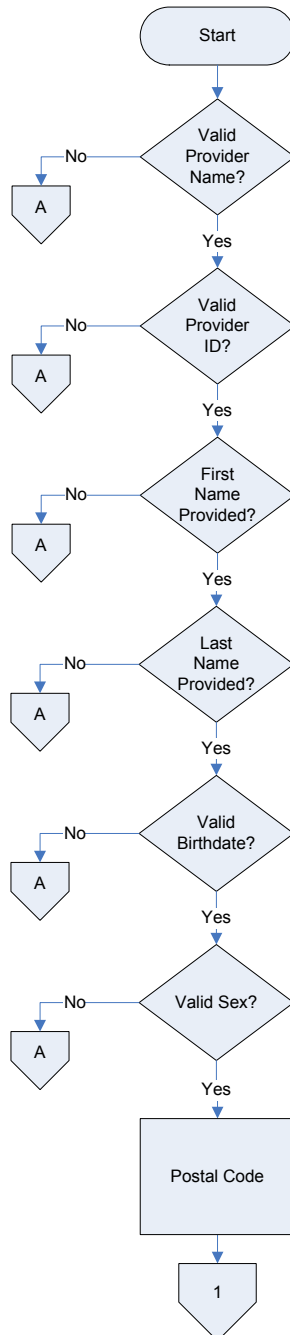
## Neonatal Intensive Care - Administration of Antenatal Steroids

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**\*Numerator:** The number of mothers receiving antenatal steroids (corticosteroids administered IM or IV) during pregnancy at any time prior to delivery of a very low birth weight infant

**\*Denominator:** Total number of mothers who delivered very low weight infants

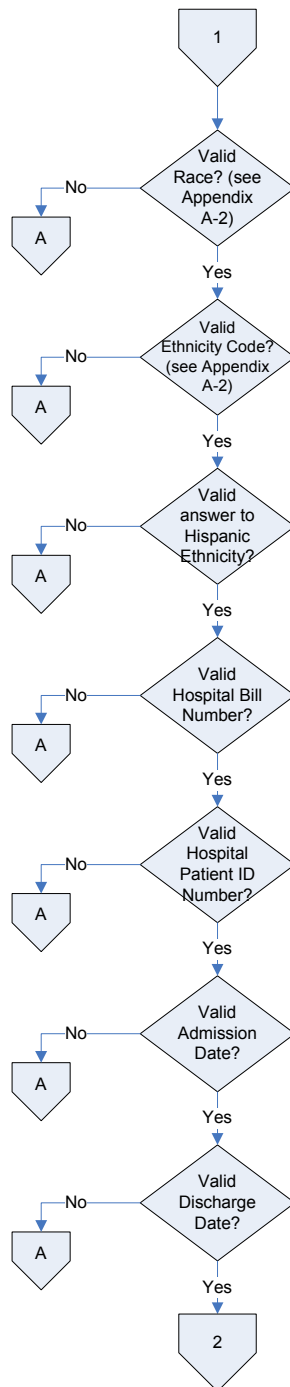
\*All cases are included in the numerator and the denominator unless otherwise specified.



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# Neonatal Intensive Care - Administration of Antenatal Steroids

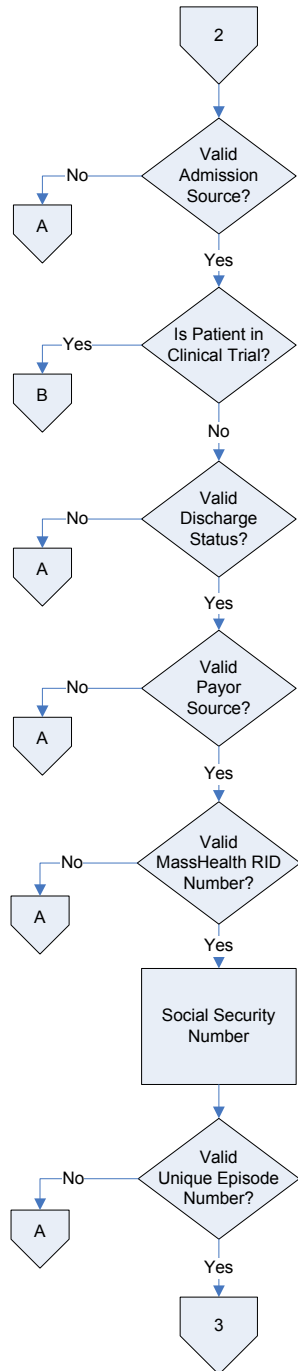
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# Neonatal Intensive Care - Administration of Antenatal Steroids

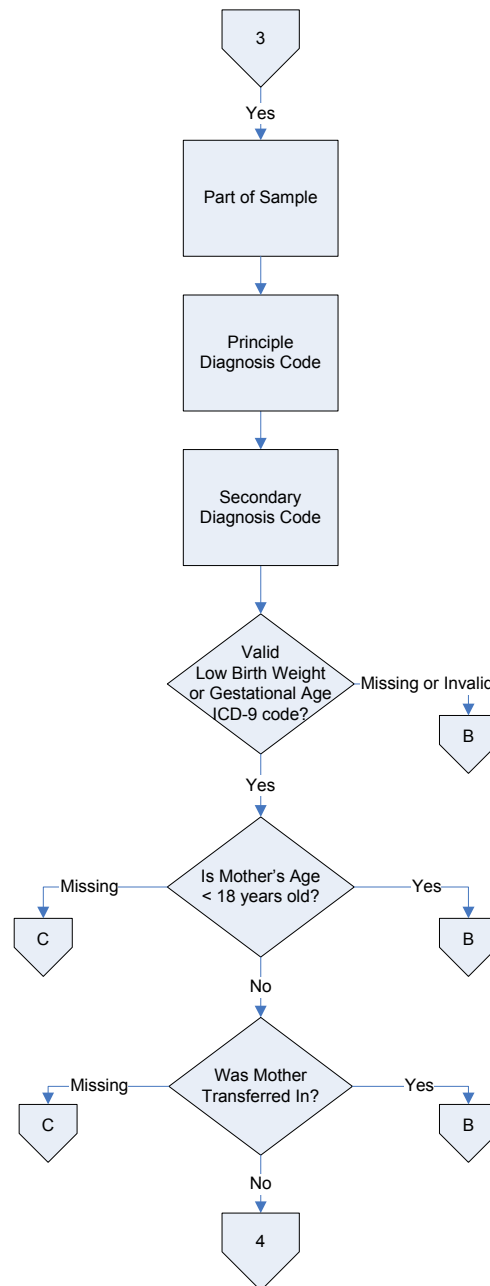
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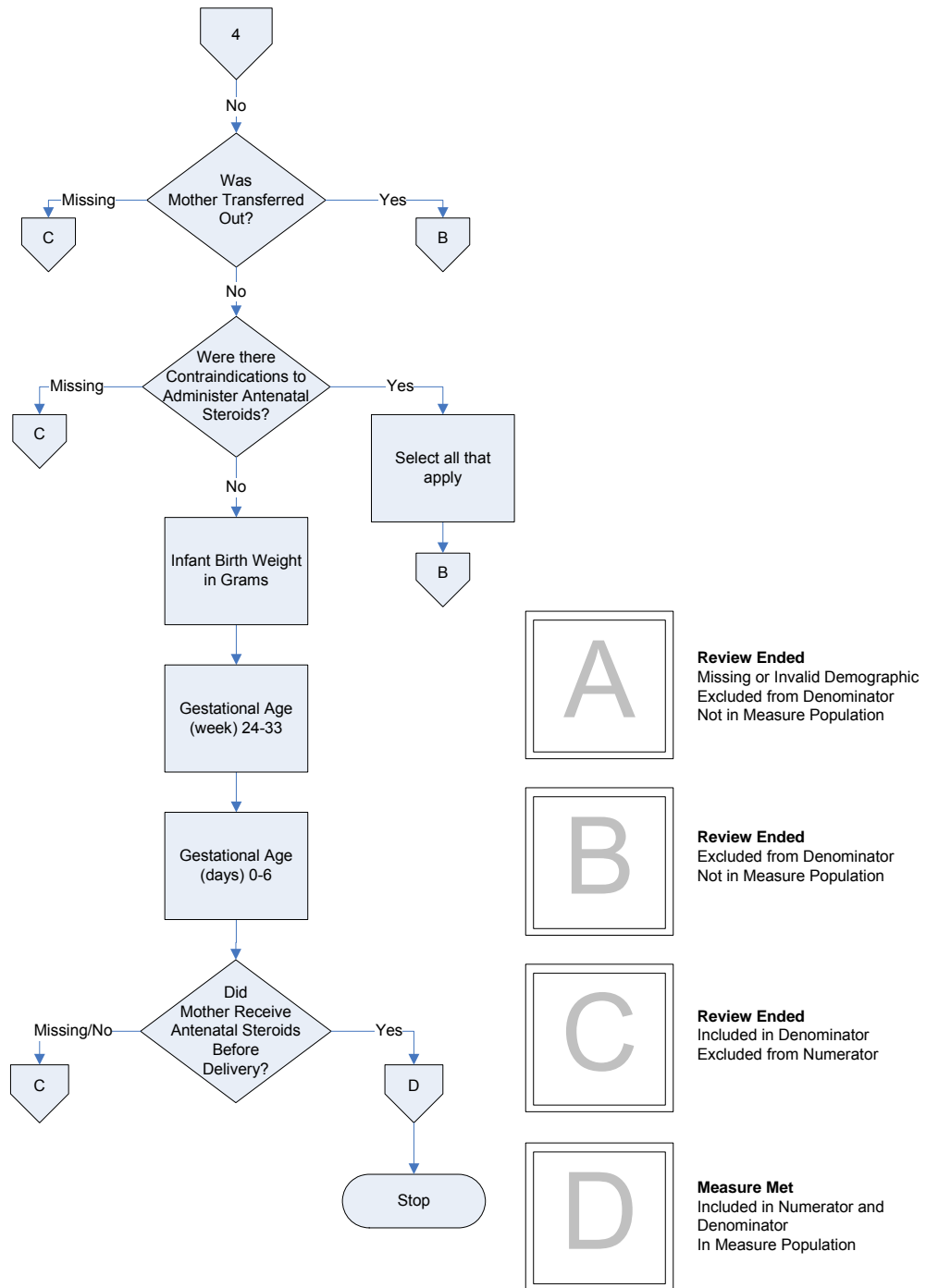
## Neonatal Intensive Care - Administration of Antenatal Steroids

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## Neonatal Intensive Care - Administration of Antenatal Steroids



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## D. National Hospital Quality Measures

Hospitals should refer to the instructions that apply to data collection and reporting of the following measures:

- 1) Community Acquired Pneumonia (PN): Refer to the *Specifications Manual for the National Hospital Quality Measures* (NHQM) versions 2.1d, 2.2b, 2.3 and relevant updates available at URL: <http://www.qualitynet.org> for preparing data on these measures.
- 2) Surgical Infection Prevention (SIP): Refer to the *Specifications Manual for the National Hospital Quality Measures* (NHQM) versions 2.1d, 2.2b, 2.3 and relevant updates available at URL: <http://www.qualitynet.org> for preparing data on these measures.
- 3) Pediatric Asthma Care (CAC-1 & CAC-2): Refer to JCAHO website to access the *Current Specifications Manual for the National Hospital Quality Measures* version 2.3 and relevant updates available at URL: <http://www.jointcommission.org>

Hospitals should refer to additional instructions that apply to reporting and preparing the above measures data for the MassHealth Payer file:

- 4) **For Medicaid Payer Codes**: Refer to Appendix A-1 of this manual.
- 5) **For Race/Ethnicity Codes**: Refer to Appendix A-2 of this manual.
- 6) **For Population Sampling**: Refer to Appendix A-3 of this manual
- 7) **For Data Abstraction Tools**:
  - a. Refer to Appendix A-8 and A-9 of this manual for Pediatric asthma measures; and
  - b. Refer to *Specifications Manual for the National Hospital Quality Measures* (NHQM) versions 2.1d, 2.2b, 2.3 and relevant updates available at URL: <http://www.qualitynet.org> for the pneumonia and SIP measures.
- 8) **For XML File Layout**:
  - a. MassHealth Pneumonia and SIP Measures: Refer to the *Specifications Manual for the National Hospital Quality Measures* (NHQM) versions 2.1d, 2.2b, 2.3 and relevant updates available at URL: <http://www.qualitynet.org> for the pneumonia and surgical infection prevention measures.
  - b. Pediatric Asthma Care Measures: Hospital must use the revised XML schema provided in Appendix A-12 of this manual in place of the JCAHO schema. The XML schema provided in this manual includes adjustment for MassHealth unique identifiers not contained in the CMS/JCAHO schema.

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## Section 5. Health Disparities Measure Reporting

The Cultural and Linguistic Appropriate Service (CLAS) standards provide guidance on implementing specific organizational practices to enhance quality care delivery processes that contribute to reducing and eliminating health disparities.

Hospital performance will be determined on the extent and scope of implementation of the CLAS standards using a measure derived from Hospital responses to the Cultural Competence Organizational Self-Assessment (CCOSA) Checklist. The CCOSA is designed to assess the level and scope of implementation practices across four organizational core functions (governance, administrative/management, clinical service, customer relations) characteristic of quality management frameworks and principles. Refer to Appendix A-4 for crosswalk on how CLAS standards align with CCOSA core functions.

**Performance Standard:** All Hospitals are expected to undertake integrated operational approaches to enhance organizational performance excellence that reduce and eliminate health disparities. Hospitals must demonstrate active commitment to continuous performance improvement in CLAS by maintaining operational approaches that are supported by leadership and coordinated strategies across the hospital system.

Each Hospital must submit a progress summary report of no more than five (5) pages that describes current efforts being implemented under the four organizational core functions as follows:

- a) **Governance:** Narrative should describe current executive leadership directives to guide the Hospitals values on equitable care and reducing disparities, strategic plan, and resources allocated to implement the plan. *Attach a copy of current strategic plan to your report.*
- b) **Administrative/Management:** Narrative should describe the mechanisms used to coordinate and communicate leadership directives, management and training of workforce to enhance CLAS, workgroups to evaluate and improve data collection and analysis of quality measures data by race and ethnicity. *Attach a copy of hospitals data collection policy and strategic workplan to improve reliability and validity of quality measures data reporting in RY2008.*
- c) **Clinical Service:** Narrative should describe current efforts to adapt inpatient care delivery processes for items # 16 and 17 in the CCOSA to ensure patients receive care that is respectful of and responsive to their cultural values. *Attach a copy of hospitals guidelines on inpatient cultural assessment documentation forms, discharge planning education procedures, plus interpreter service policy.*
- d) **Customer Relations:** Narrative should describe current efforts to elicit input from racial, ethnic and linguistic groups about experiences and satisfaction with patient care, which patient satisfactions surveys are translated, and current interagency collaborations with community groups in hospitals service area. *Attach a copy of patient satisfaction surveys that are translated and modify questions to get input from community on CLAS.*
- f) **Submission Due.** Each Hospital must submit a five (5) page summary report that addresses the specific topic areas listed above, plus copy of relevant documents along with the completed CCOSA Checklist 2008 Form by the due dates stated in the RY2008 Amended and Restated Acute Hospital RFA and any amendments thereto. Hospitals that do not meet the submission due date will not be eligible to receive incentive payments on performance measures

EOHHS will conduct validation of Hospital responses and documentation using a sampling method. The selection of Hospitals will consider various factors such as degree of CLAS practice implementation reported in the CCOSA, Hospitals patient race/ethnicity volume mix, geographic location and clinical measures data.

## APPENDIX A-1: Medicaid Payer Code Crosswalk (DHCFP vs. CMS)

**Table 1:  
Massachusetts Division of Healthcare Finance Policy (DHCFP) Medicaid Payer Codes**

Payer Code	DHCFP Medicaid Payer Source Description	Electronic Files
103	Medicaid ---includes MassHealth (see pg. 6 description of this manual)	Include codes in MassHealth Payer files
104	Medicaid Managed Care----Primary Care Clinician (PCC) Plan	
106	Medicaid Managed Care-Central Mass Health Care	Do not include codes in MassHealth Payer files.  (Portal will reject files with these payer codes)
107	Medicaid Managed Care-Community Health Plan	
108	Medicaid Managed Care- Fallon Community Health Plan	
109	Medicaid Managed Care-Harvard Community Health Plan	
110	Medicaid Managed Care- Health New England	
111	Medicaid Managed Care- HMO Blue	
112	Medicaid Managed Care- Kaiser Foundation Plan	
113	Medicaid Managed Care- Neighborhood Health Plan	
114	Medicaid Managed Care- United Health Plans of NE (Ocean State Physician's Plan)	
115	Medicaid Managed Care-Pilgrim Health Care	
116	Medicaid Managed Care- Tufts Associated Health Plan	
118	Medicaid Mental Health & Substance Abuse Plan- Mass Behavioral Health Partnership	
119	Medicaid Managed Care Other (not listed elsewhere)	
98	Healthy Start	
144	Other Government --(including but not limited to Children's Medical Security Plan (CMSP))	

**Source:** Massachusetts Division of Health Care Finance and Policy Hospital Inpatient Discharge Data. Electronic Records Submission Specifications. September 2006. Available at URL:  
[http://www.mass.gov/Eeohhs2/docs/dhcfp/g/regs/114\\_1\\_17\\_hdd\\_data\\_specs.pdf](http://www.mass.gov/Eeohhs2/docs/dhcfp/g/regs/114_1_17_hdd_data_specs.pdf)

**Table 2:  
Payer Codes Allowable for CMS Hospital Compare Reporting**

Codes	Description
1	<b>Medicare (Title 18):</b> Medicare is listed as a payment source and has a standard Patient HIC Number. This would include Medicare FFS & Medicare coverage as a secondary payer (Medicare HMO/Medicare Advantage)
2	<b>Medicaid (Title 19):</b> Medicaid is listed as a payment source.
3	<b>Other: than</b> Medicare or Medicaid payment source (e.g., Veterans Administration [VA], CHAMPUS [TRICARE], Workers' Compensation or private insurance).
4	<b>No Insurance/Not documented/Unable to Determine:</b> The patient has no insurance coverage, the payment source is not documented, unable to determine the payment source, or the payment source does not coincide with one of the above options.
5	<b>Medicare Other:</b> Medicare is listed as a payment source and does not have a standard Patient HIC Number. This would include Undocumented Alien (Illegal immigrant) status and may include Medicare HMO/Medicare Advantage.

**Source:** National Technical Specifications Manual for Hospital Quality Measures version 2.3. Available at URL:  
<http://www.qualitynet.org/>

**APPENDIX A-2:  
Race/Ethnicity Crosswalk Codes (DHCFP vs. CMS)**

<b>DHCFP Code</b>	<b>Massachusetts DHCFP Values</b>	<b>CMS Code</b>	<b>CMS Allowable Values (Select One)</b>
<b>R1</b>	American Indian/Alaska Native	<b>1</b>	White
<b>R2</b>	Asian	<b>2</b>	Black or African American:
<b>R3</b>	Black/African American	<b>3</b>	American Indian or Alaska Native
<b>R4</b>	Native Hawaiian or other Pacific islander	<b>4</b>	Asian
<b>R5</b>	White	<b>5</b>	Native Hawaiian or Pacific Islander:
<b>R9</b>	Other Race	<b>6</b>	RETIRED VALUE (effective 07-01-05 discharges)
<b>UNKNOWN</b>	Unknown/not specified	<b>7</b>	UTD: Unable to determine (not stated, documented, conflicting documentation, unwilling to provide).
<b>Valid Entry</b>	<b>Patient Hispanic Indicator</b>	<b>Valid Entry</b>	<b>CMS Ethnicity Values (Select one)</b>
<b>Y</b>	Patient is Hispanic/Latino/Spanish	<b>Y (Yes)</b>	Patient is of Hispanic ethnicity or Latino
<b>N</b>	Patient is Not Hispanic/Latino/Spanish	<b>N (No)</b>	Patient is not of Hispanic ethnicity or Latino or unable to determine from medical record documentation
<b>ETHN Codes</b>	<b>Ethnicity Inclusions</b>	<b>CMS Code</b>	<b>CMS Hispanic Ethnicity Inclusions</b>
<b>2182-4</b>	Cuban	<b>None Avail</b>	Cuban
<b>2184-0</b>	Dominican	<b>None Avail</b>	Chicano
<b>2148-5</b>	Mexican, Mexican American, Chicano	<b>None Avail</b>	Mexican
<b>2180-8</b>	Puerto Rican	<b>None Avail</b>	Mexican-American
<b>2161-8</b>	Salvadoran	<b>None Avail</b>	Other Spanish origin (regardless of race)
<b>2155-0</b>	Central American (not specified)	<b>None Avail</b>	Central American
<b>2165-9</b>	South American (not specified)	<b>None Avail</b>	South American
<b>2060-2</b>	African	<b>None Avail</b>	Latin American
<b>2058-6</b>	African American	<b>None Avail</b>	Spanish
<b>AMERCN</b>	American	<b>None Avail</b>	White-Hispanic
<b>2028-9</b>	Asian	<b>None Avail</b>	Latino/Latina
<b>2029-7</b>	Asian Indian		
<b>BRAZIL</b>	Brazilian		
<b>2033-9</b>	Cambodian		
<b>CVERDN</b>	Cape Verdean		
<b>CARIBI</b>	Caribbean Island		
<b>2034-7</b>	Chinese		
<b>2169-1</b>	Columbian		
<b>2108-9</b>	European		
<b>2036-2</b>	Filipino		
<b>2157-6</b>	Guatemalan		
<b>2071-9</b>	Haitian		
<b>2158-4</b>	Honduran		
<b>2039-6</b>	Japanese		
<b>2040-4</b>	Korean		
<b>2041-2</b>	Laotian		
<b>2118-8</b>	Middle Eastern		
<b>PORTUG</b>	Portuguese		
<b>RUSSIA</b>	Russian		
<b>EASTEU</b>	Eastern European		
<b>2047-9</b>	Vietnamese		
<b>OTHER</b>	Other Ethnicity		
<b>UNKNOWN</b>	Unknown/not specified		

### APPENDIX A-3: Sampling Specifications for MassHealth Population

The sampling methodology described in this section adheres to principles used in the Specifications Manuals of the National Hospital Quality Measures to ensure that a statistically valid sample is drawn. Hospitals shall sample MassHealth inpatient paid claims and perform medical chart abstraction for the sampled claims. The following conditions apply to the sampling methods for all measures.

- a) **Dates of Service.** Hospitals must provide data for all 2007 quarters as described in Appendix G 2008. Hospitals may report on all claims or a sample per quarter.
- b) **Sample Size.** The number sampled by Hospitals will vary by the volume of the patients for that provider that meets the population conditions for the measure. Usually, the population conditions are defined by one or more ICD-9 codes and/or other characteristics of the patient.

The following Tables show the minimum required sample size based on the volume of the MassHealth patients.

**TABLE 1:  
Sample Size for the Group B Strep Measure (MAT-1)**

Number of MassHealth Deliveries Per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-29	No sampling; 100% of ICD population is required
30-59	29
60-99	41
100-129	47
130-159	52
160-189	55
190-219	58
220-249	60
250-279	62
280-309	63
310-339	64
340-369	66
Greater than 370	67

**TABLE 2:  
Sample Size for Cesarean Prophylaxis Measure (MAT-2)**

Number of MassHealth per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-29	No sampling; 100% of ICD population is required
30-59	31
60-99	46
100-129	54
130-159	60
Greater than 160	65

**Table 3:  
Sample Size for Neonatal (NICU-1) Measure**

Number of MassHealth Discharges per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-30	No sampling; 100% of ICD population is required
Greater than 30	31

**Table 4:  
Sample Size for Pediatric Asthma (CAC) Measure Set**

Number of MassHealth Discharges per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-29	No sampling; 100% of ICD population is required
30-59	31
Greater than 59	46

**Table 5:  
Sample Size for Surgical Infection Prevention (SIP) Measure Set**

Number of MassHealth Discharges Per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-29	No sampling; 100% of ICD population is required
30-59	31
60-99	46
100-129	54
130-159	60
Greater than 159	65

**Table 6:  
Sample Size for Pneumonia (PN) Measure Set**

Number of MassHealth Discharges per Quarter (ICD POPULATION SIZE)	Minimum Required Sample Size “n”
1-29	No sampling; 100% of ICD population is required
30-59	31
Greater than 59	46

***Footnote: the term “no sampling” means that sampling does not apply when discharge volume per quarter falls in this range category.***

## APPENDIX A-4: CLAS Measures Crosswalk to CCOSA Checklist

National CLAS Standards	CCOSA Functions
1. Health care organizations should ensure that patients/consumers receive from all staff members, effective, understandable, and respectful care that is provided in a manner compatible with their cultural beliefs, practices and preferred language.	[SERVICE LEVEL]
2. Healthcare organizations should implement strategies to recruit, retain and promote at all levels of the organization a diverse staff and leadership that are representative of the demographic characteristics of the service area.	[GOVERNANCE & ADMIN-MGT & SERVICE LEVEL]
3. Health care organizations should ensure that staff at all levels and across all disciplines receive ongoing education and training in cultural and linguistically appropriate service delivery.	[ADMIN-MGT]
4. Health care organizations must offer and provide language assistance services, including bilingual staff and interpreter services, at no cost to each patient with limited English speaking proficiency at all points of contact, in a timely manner during all hours of operation.	[SERVICE LEVEL]
5. Health care organizations must provide to patients/consumers in their preferred language both verbal offers and written notices informing them of their right to receive language assistance services.	[SERVICE LEVEL]
6. Health care organizations must assure competence of language assistance provided to limited English speaking proficient patients/consumers by interpreters and bilingual staff. Family and friends should not be used to provide interpretation services (except on request by the patient/consumer).	[SERVICE LEVEL]
7. Health care organizations must make available easily understood patient related materials and post signage in the language of the commonly encountered groups and/or groups represented in service area.	[SERVICE LEVEL]
8. Health care organizations should develop, implement, and promote a written strategic plan that outlines clear goals, policies, operational plans and management accountability or oversight mechanisms to provide culturally and linguistically appropriate services.	[GOVERNANCE]
9. Health care organizations should conduct initial and ongoing organizational self-assessments of CLAS related activities and are encouraged to integrate cultural and linguistic competence related measures into their internal audits, performance improvement programs, patient satisfaction assessments and outcomes-based evaluations.	[ADMIN-MGT & CUST RELTNS]
10. Health care organizations should ensure that data on the individual patients/consumer's race, ethnicity, spoken and written language are collected in health records, integrated into the organizations management information systems and periodically updated.	[ADMIN-MGT]
11. Health care organizations should maintain a current demographic, cultural, and epidemiological profile of the community as well as a needs assessment to accurately plan for and implement services that respond to the cultural and linguistic characteristics of the service area.	[GOVERNANCE]
12. Health care organizations should develop participatory, collaborative partnerships with communities and utilize a variety of formal and informal mechanisms to facilitate community and patient/consumer involvement in design and implementing CLAS related activities.	[CUSTOMER RELATIONS]
13. Health care organizations should ensure that conflict and grievance resolution processes are culturally and linguistically sensitive and capable of identifying, preventing, and resolving cross-cultural conflicts or complaints by patient/consumers.	[CUSTOMER RELATIONS]
14. Health care organizations are encouraged to regularly make available to the public information about their progress and successful innovations in implementing the CLAS standards and to provide public notice in their communities about the availability of this information.	[CUSTOMER RELATIONS]

**Source:** U.S. Department of Health and Human Services (2001). National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Healthcare. Final Report. Washington, DC: DHHS, Office of Minority Health. Available at URL: <http://www.omhrc.gov/assets/pdf/checked/finalreport.pdf>



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## APPENDIX A-5:

### Data Abstraction Tool: Intrapartum Antibiotic Prophylaxis for GBS (MAT-1)

Provider Name \_\_\_\_\_

Provider ID \_\_\_\_\_ (Alpha/Numeric)

First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Birthdate \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Sex: ☐ Female

Postal Code: What is the postal code of the patient's residence?

\_\_\_\_ (Five or nine digits, HOMELESS, or Non-US)

Race (Select one)

- ☐ R1 American Indian or Alaska Native
- ☐ R2 Asian
- ☐ R3 Black/African American
- ☐ R4 Native Hawaiian or other Pacific Islander
- ☐ R5 White
- ☐ R9 Other Race
- ☐ UNKNOW Unknown/not specified

Ethnicity Code: \_\_\_\_\_ ; (Alpha 6 characters, numeric is 5 numbers with –after 4<sup>th</sup> number)

Hispanic Ethnicity

- ☐ No
- ☐ Yes

Hospital Bill Number \_\_\_\_\_  
(Alpha/Numeric – field size up to 20)

Hospital Patient ID (Medical Record) \_\_\_\_\_ (Alpha/Numeric)

Admission Date \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Discharge Date \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Admission Source: (Select one option)

- ☐ 1. = Physician referral
- ☐ 2. = Clinic referral
- ☐ 3. = HMO referral
- ☐ 4. = Transfer from a hospital (different facility)
- ☐ 5. = Transfer from SNF
- ☐ 6. = Transfer from another Health Care Facility
- ☐ 7. = Emergency Room (This Facility)
- ☐ 8. = Court/Law Enforcement
- ☐ 9. = Information not available

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**Is the patient participating in a clinical trial?**

- ☐ Yes (Review Ends)  
☐ No

**Discharge Status:** (Select one option)

- ☐ 01. = Discharged to home care or self care (routine discharge)  
☐ 02. = Discharged/transferred to a short term general hospital for inpatient care  
☐ 03. = Discharged/transferred to a skilled nursing facility  
☐ 04. = Discharged/transferred to an intermediate care facility  
☐ 05. = Discharged /transferred to another type of institution not defined elsewhere in this code list  
☐ 06. = Discharge/transferred to home under care of organized home health services organization in anticipation of covered services  
☐ 07. = Left against medical advice or discontinued care  
☐ 20. = Expired

1. What is the Medicaid Payer Source? Select one:

- |                       | <u>Payer Source Code</u> | <u>DHCFP Payer Source Description</u>                     |
|-----------------------|--------------------------|---|
| <input type="radio"/> | 103                      | Medicaid (includes MassHealth)                            |
| <input type="radio"/> | 104                      | Medicaid Managed Care – Primary Care Clinician (PCC) Plan |

2. What is the patient's MassHealth Recipient ID number? (All alpha characters must be upper case)

\_\_\_\_\_

3. What is the patient's Social Security Number? \_\_\_\_\_

4. What is the unique measurement system-generated number that identifies this episode of care?

\_\_\_\_\_

5. Does this case represent part of a sample?

- ☐ Yes  
☐ No

6. Was there a Maternity Delivery ICD-9-CM diagnosis code selected as this for this record?

- ☐ No (Review Ends)  
\_\_\_\_\_ . \_\_\_\_ (6 , implied decimal)

7. At what time was the mother admitted to the labor and delivery unit?

\_\_\_\_:\_\_\_\_ (military format – HH:MM)

8. Did the patient have a pre-natal maternal infection (not GBS) and receive an antibiotic?

- ☐ Yes (Review Ends)  
☐ No

9. Was a planned Cesarean Delivery performed in the absence of labor or membrane rupture?

- ☐ Yes (Review Ends)  
☐ No

10. What was the gestational age at the time of delivery? (in completed weeks, do not round up) \_\_\_\_\_  
(numeric, 2 digit, no leading 0)

11. On what date was the infant delivered? \_\_\_\_ - \_\_\_\_ - \_\_\_\_
12. At what time was the infant delivered? \_\_\_\_:\_\_\_\_ (military format – HH:MM )
13. Did the mother deliver a live newborn?  
☐ Yes  
☐ No (Review Ends)
14. Previous infant with invasive GBS disease? Select one:  
a. ☐ Yes  
b. ☐ No
15. Did the mother have GBS bacteriuria during this pregnancy? **Select one:**  
☐ Yes  
☐ No
16. The result of the mother's vaginal and rectal screening culture for GBS at 35-37 weeks was? Select one:  
a. ☐ Positive  
b. ☐ Negative (Review Ends)  
c. ☐ Unknown (If selected, answer i, ii, and iii)  
i. Gestational age at delivery was < 37 weeks?  
☐ Yes  
☐ No  
ii. Were the amniotic membranes ruptured for 18 or more hours?  
☐ Yes  
☐ No  
iii. Did the mother have an intrapartum temperature of  $\geq 100.4$  ( $\geq 38.0^\circ\text{C}$ )?  
☐ Yes  
☐ No
17. Were IV antibiotics given to the mother intrapartum?  
☐ Yes  
☐ No (antibiotic table can not be completed) (Review Ends)

Antibiotic Name (trade or generic) (Choice: Penicillin, Ampicillin, Cefazolin, Clindamycin, Erythromycin, Vancomycin, or Other (mutually exclusive))	Antibiotic Administration Date (MM-DD-YYYY)	Antibiotic Administration Time (military format – HH:MM )

18. Was "other" antibiotic selected? ☐ Yes ☐ No  
a) If yes, was "Other" antibiotic specifically documented as being used for prophylaxis?  
☐ Yes ☐ No
19. Did the patient have any allergies, sensitivities, or intolerance to beta-lactam/penicillin antibiotics, cephalosporin medications, or aminoglycosides?  
☐ Yes ☐ No

---

## APPENDIX A- 6:

### Data Abstraction Tool: Perioperative Antibiotics for Cesarean Section (MAT-2)

Provider Name \_\_\_\_\_

Provider ID \_\_\_\_\_ (Alpha/Numeric)

First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Birthdate \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Sex: ☐ Female

Postal Code: What is the postal code of the patient's residence?

\_\_\_\_ (Five or nine digits, HOMELESS, or Non-US)

Race (Select one)

- ☐ R1 American Indian or Alaska Native
- ☐ R2 Asian
- ☐ R3 Black/African American
- ☐ R4 Native Hawaiian or other Pacific Islander
- ☐ R5 White
- ☐ R9 Other Race
- ☐ UNKNOWN Unknown/not specified

Ethnicity Code: \_\_\_\_\_ (Alpha 6 characters, numeric is 5 numbers with –after 4<sup>th</sup> number)

Hispanic Ethnicity

- ☐ No
- ☐ Yes

Hospital Bill Number \_\_\_\_\_  
(Alpha / Numeric – field size up to 20)

Hospital Patient ID (Medical Record Number) \_\_\_\_\_ (Alpha/Numeric)

Admission Date \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Discharge Date \_\_\_\_ - \_\_\_\_ - \_\_\_\_

Admission Source: (Select one option)

- ☐ 1. = Physician referral
- ☐ 2. =Clinic referral
- ☐ 3. = HMO referral
- ☐ 4. = Transfer from a hospital (different facility)
- ☐ 5. = Transfer from SNF
- ☐ 6. = Transfer from another Health Care Facility
- ☐ 7. = Emergency Room (This Facility)
- ☐ 8. =Court/Law Enforcement
- ☐ 9. = Information not available

---

**Is the patient participating in a clinical trial?**

- ☐ Yes (Review Ends)  
☐ No

**Discharge Status:** (Select one option)

- ☐ 01. = Discharged to home care or self care (routine discharge)  
☐ 02. = Discharged/transferred to a short term general hospital for inpatient care  
☐ 03. = Discharged/transferred to a skilled nursing facility  
☐ 04. = Discharged/transferred to an intermediate care facility  
☐ 05. = Discharged /transferred to another type of institution not defined elsewhere in this code list  
☐ 06. = Discharge/transferred to home under care of organized home health services organization in anticipation of covered services  
☐ 07. = Left against medical advice or discontinued care  
☐ 20. = Expired

1. What is the Medicaid Payer Source? Select one:

- |                       | <u>Payer Source Code</u> | <u>DHCFP Payer Source Description</u>                     |
|-----------------------|--------------------------|---|
| <input type="radio"/> | 103                      | Medicaid (includes MassHealth)                            |
| <input type="radio"/> | 104                      | Medicaid Managed Care – Primary Care Clinician (PCC) Plan |

2. What is the patient's MassHealth Recipient ID number? (All alpha characters must be upper case)

\_\_\_\_\_

3. What is the patient's Social Security number?

\_\_\_\_\_

4. What is the unique measurement system-generated number that identifies this episode of care?

\_\_\_\_\_

5. Does this case represent part of a sample?

- ☐ Yes  
☐ No

6. Was there a Cesarean Delivery ICD-9-CM procedure code selected for this record?

- ☐ No (Review Ends)  
Code: \_\_\_\_ . \_\_\_\_ (5, implied decimal point)

7. Did the patient have a confirmed or suspected infection during this hospitalization prior to the c-section?

- ☐ Yes (Review Ends)  
☐ No

8. Did the patient receive antibiotic treatment for prophylaxis within 24 hours prior to surgery? (e.g., GBS, chorioamnionitis, bacterial endocarditis) Select one:

- a) ☐ GBS  
b) ☐ Other prophylaxis (Review Ends)  
c) ☐ No prophylaxis

9. Were there any other procedures requiring general or spinal anesthesia that occurred within three days prior to or after the principal procedure during this hospital stay?

---

☐ Yes (Review Ends)

☐ No

10. On what date did the Cesarean Section start?

\_\_\_\_-\_\_\_\_-\_\_\_\_

11. At what time was the initial incision made for the Cesarean Section?

\_\_\_\_:\_\_\_\_ (military format – HH:MM)

12. On what date was the infant delivered?

\_\_\_\_-\_\_\_\_-\_\_\_\_

13. At what time was the infant delivered?

\_\_\_\_:\_\_\_\_ (military format – HH:MM)

14. Did the patient receive an I.V. antibiotic for Cesarean Section prophylaxis?

☐ Yes

☐ No (antibiotic table can not be completed)

Antibiotic Name (trade or generic) (Choice: ampicillin, cefazolin, gentamycin, or other (mutually exclusive))	Antibiotic Administration Date (MM-DD-YYYY)	Antibiotic Administration Time (military format – HH:MM)

15. Was “other” antibiotic selected? ☐ Yes ☐ No

a) If yes, was “Other” antibiotic specifically documented as being used for prophylaxis?

☐ Yes

☐ No

16. Did the patient have any allergies, sensitivities, or intolerance to beta-lactam/penicillin antibiotics, cephalosporin medications, or aminoglycosides?

☐ Yes

☐ No

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**APPENDIX A-7:****Data Abstraction Tool: Neonatal Antenatal Steroid (NICU-1)**

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**Provider Name** \_\_\_\_\_**Provider ID** \_\_\_\_\_ (Alpha/Numeric)**First Name** \_\_\_\_\_**Last Name** \_\_\_\_\_**Birthdate** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Sex:**    ☐ Female        ☐ Male        ☐ Unknown**Postal Code:** What is the postal code of the patient's residence? \_\_\_\_\_ (Five or nine digits, HOMELESS, or Non-US)**Race (Select one)**

- ☐ R1 American Indian or Alaska Native
- ☐ R2 Asian
- ☐ R3 Black/African American
- ☐ R4 Native Hawaiian or other Pacific Islander
- ☐ R5 White
- ☐ R9 Other Race
- ☐ UNKNOW Unknown/not specified

**Ethnicity Code:** \_\_\_\_\_ (Alpha 6 character, numeric is 5 numbers with –after 4<sup>th</sup> number)**Hispanic Ethnicity**

- ☐ No
- ☐ Yes

**Hospital Bill Number** \_\_\_\_\_ (Alpha/Numeric – field size up to 20)**Hospital Patient ID (Medical Record Number)** \_\_\_\_\_ (Alpha/Numeric)**Admission Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Discharge Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Admission Source:** (Select one option)

- ☐ 1. = Physician referral
- ☐ 2. = Clinic referral
- ☐ 3. = HMO referral
- ☐ 4. = Transfer from a hospital (different facility)
- ☐ 5. = Transfer from SNF
- ☐ 6. = Transfer from another Health Care Facility
- ☐ 7. = Emergency Room (This Facility)
- ☐ 8. = Court/Law Enforcement
- ☐ 9. = Information not available

---

**Is the patient participating in a clinical trial?**

- ☐ Yes (Review Ends)
- ☐ No

**Discharge Status:** (Select one option)

- ☐ 01. = Discharged to home care or self care (routine discharge)
- ☐ 02. = Discharged/transferred to a short term general hospital for inpatient care
- ☐ 03. = Discharged/transferred to a skilled nursing facility
- ☐ 04. = Discharged/transferred to an intermediate care facility
- ☐ 05. = Discharged /transferred to another type of institution not defined elsewhere in this code list
- ☐ 06. = Discharge/transferred to home under care of organized home health services organization in anticipation of covered services
- ☐ 07. = Left against medical advice or discontinued care
- ☐ 20. = Expired

**1. What is the Medicaid & Medicaid Managed Care Payer Source?**

Select one:

- |                       | <u>Payer Source Code</u> | <u>DHCFP Payer Source Description</u>                     |
|-----------------------|--------------------------|---|
| <input type="radio"/> | 103                      | Medicaid (includes MassHealth)                            |
| <input type="radio"/> | 104                      | Medicaid Managed Care – Primary Care Clinician (PCC) Plan |

**2. What is the patient's MassHealth Recipient ID number? (All alpha characters must be upper case)**

\_\_\_\_\_

**3. What is the patient's Social Security number?**

\_\_\_\_\_

**4. What is the unique measurement system-generated number that identifies this episode of care?**

\_\_\_\_\_

**5. Does this case represent part of a sample?**

- ☐ Yes
- ☐ No

**6. Principal: \_\_\_\_\_. \_\_\_\_ (6, implied decimal)**

Secondary: \_\_\_\_\_. \_\_\_\_ (6, implied decimal)

Was the Principal or Secondary ICD-9-CM Diagnosis Code of Delivery <1500 grams **or** gestational age between 24 weeks 0 days and 33 weeks 6 days selected for this record?

- ☐ No (Review stops)

**7. Was the mother's age less than 18 years old? (Admission Date – Birth Date)**

- ☐ Yes, Review Stops
- ☐ No



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8. Was the mother transferred in?

- ☐ Yes, Review Stops
- ☐ No

9. Was the mother transferred out?

- ☐ Yes, Review Stops
- ☐ No

10. Was there documentation of one or more of the following contraindications to administer antenatal steroids to the mother?

- ☐ Yes
- ☐ No

If yes, select all that apply: (If any selected, Review Stops)

- ☐ Maternal thyrotoxicosis
- ☐ Maternal cardiomyopathy
- ☐ Active maternal infection or choriamnionitis
- ☐ Ruptured membranes and imminent delivery within 6-12 hours
- ☐ Fetal demise
- ☐ Mother with tuberculosis
- ☐ Other reasons as documented by physician, nurse practitioner, or physician assistant

11. What was the infant's birth weight in grams?

\_\_\_\_ \_ (no leading 0)

12. What was the infant's gestational age? (both weeks and days must be completed)

Weeks: \_\_\_\_ (range 24 – 33)

Days: \_\_\_\_ (range: 0 – 6)

13. Did the mother receive antenatal steroids (corticosteroids administered IM or IV) during pregnancy at any time prior to delivery of a very low birth weight infant?

- ☐ Yes
- ☐ No

---

**APPENDIX A-8:****Data Abstraction Tool: Pediatric Asthma Measures (CAC-1a)**

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**Provider Name** \_\_\_\_\_**Provider ID** \_\_\_\_\_ (Alpha/Numeric)**First Name** \_\_\_\_\_**Last Name** \_\_\_\_\_**Birthdate** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Sex:**    ☐ Female        ☐ Male    ☐ Unknown**Postal Code:** What is the postal code of the patient's residence? \_\_\_\_\_ (Five or nine digits, HOMELESS, or Non-US)**Race (Select one)**

- ☐ R1 American Indian or Alaska Native
- ☐ R2 Asian
- ☐ R3 Black/African American
- ☐ R4 Native Hawaiian or other Pacific Islander
- ☐ R5 White
- ☐ R9 Other Race
- ☐ UNKNOWN Unknown/not specified

**Ethnicity Code:** \_\_\_\_\_ (Alpha 6 characters, numeric is 5 numbers with –after 4<sup>th</sup> number)**Hispanic Ethnicity**

- ☐ No
- ☐ Yes

**Hospital Bill Number** \_\_\_\_\_

(Alpha / Numeric – field size up to 20)

**Hospital Patient ID (Medical Record)** \_\_\_\_\_ (Alpha/Numeric)**Admission Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Discharge Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Admission Source:** (Select one option)

- ☐ 1. = Physician referral
- ☐ 2. =Clinic referral
- ☐ 3. = HMO referral
- ☐ 4. = Transfer from a hospital (different facility)
- ☐ 5. = Transfer from SNF
- ☐ 6. = Transfer from another Health Care Facility
- ☐ 7. = Emergency Room (This Facility)
- ☐ 8. =Court/Law Enforcement
- ☐ 9. = Information not available

---

**Is the patient participating in a clinical trial?**

- ☐ Yes (Review Ends)  
☐ No

**Discharge Status:** (Select one option)

- ☐ 01. = Discharged to home care or self care (routine discharge)  
☐ 02. = Discharged/transferred to a short term general hospital for inpatient care  
☐ 03. = Discharged/transferred to a skilled nursing facility  
☐ 04. = Discharged/transferred to an intermediate care facility  
☐ 05. = Discharged /transferred to another type of institution not defined elsewhere in this code list  
☐ 06. = Discharge/transferred to home under care of organized home health services organization in anticipation of covered services  
☐ 07. = Left against medical advice or discontinued care  
☐ 20. = Expired

1. What is the Medicaid & Medicaid Managed Care Payer Source? Select one:

<u>Payer Source Code</u>	<u>DHCFP Payer Source Description</u>
<input type="radio"/> 103	Medicaid (includes MassHealth)
<input type="radio"/> 104	Medicaid Managed Care – Primary Care Clinician (PCC) Plan

2. What is the patient's MassHealth Recipient ID number? (All alpha characters must be upper case)

\_\_\_\_\_

3. What is the patient's Social Security number? \_\_\_\_\_

4. What is the unique measurement system-generated number that identifies this episode of care?

\_\_\_\_\_

5. Does this case represent part of a sample?

- ☐ Yes  
☐ No

6. Was there an ICD-9-CM Principal Diagnosis Code of Asthma?

- ☐ No, Review Stops  
\_\_\_\_\_. \_\_\_\_ (6, implied decimal)

7. At the time of discharge was the patient's age 2 years through 17 years?

- ☐ Yes  
☐ No, Review Stops

8. Is there documentation of contraindications/reasons for not prescribing relievers during this hospitalization?

- ☐ Yes, Review Stops  
☐ No

9. Did the patient receive a reliever medication(s) during this hospitalization?

- ☐ Yes  
☐ No

---

**APPENDIX A-9:****Data Abstraction Tool: Pediatric Asthma Measures (CAC-2a)**

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**Provider Name** \_\_\_\_\_**Provider ID** \_\_\_\_\_ (Alpha/Numeric)**First Name** \_\_\_\_\_**Last Name** \_\_\_\_\_**Birthdate** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Sex:**    ☐ Female        ☐ Male    ☐ Unknown**Postal Code:** What is the postal code of the patient's residence?  
\_\_\_\_\_ (Five or nine digits, HOMELESS, or Non-US)**Race (Select one)**

- ☐ R1 American Indian or Alaska Native
- ☐ R2 Asian
- ☐ R3 Black/African American
- ☐ R4 Native Hawaiian or other Pacific Islander
- ☐ R5 White
- ☐ R9 Other Race
- ☐ UNKNOW Unknown/not specified

**Ethnicity Code:** \_\_\_\_ (Alpha 6 characters, numeric is 5 numbers with –after 4<sup>th</sup> number)**Hispanic Ethnicity**

- ☐ No
- ☐ Yes

**Hospital Bill Number** \_\_\_\_\_  
(Alpha / Numeric – field size up to 20)**Hospital Patient ID (Medical Record)** \_\_\_\_\_ (Alpha/Numeric)**Admission Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Discharge Date** \_\_\_\_ - \_\_\_\_ - \_\_\_\_**Admission Source:** (Select one option)

- ☐ 1. = Physician referral
- ☐ 2. =Clinic referral
- ☐ 3. = HMO referral
- ☐ 4. = Transfer from a hospital (different facility)
- ☐ 5. = Transfer from SNF
- ☐ 6. = Transfer from another Health Care Facility
- ☐ 7. = Emergency Room (This Facility)
- ☐ 8. =Court/Law Enforcement
- ☐ 9. = Information not available

---

**Is the patient participating in a clinical trial?**

- ☐ Yes (Review Ends)  
☐ No

**Discharge Status:** (Select one option)

- ☐ 01. = Discharged to home care or self care (routine discharge)  
☐ 02. = Discharged/transferred to a short term general hospital for inpatient care  
☐ 03. = Discharged/transferred to a skilled nursing facility  
☐ 04. = Discharged/transferred to an intermediate care facility  
☐ 05. = Discharged /transferred to another type of institution not defined elsewhere in this code list  
☐ 06. = Discharge/transferred to home under care of organized home health services organization in anticipation of covered services  
☐ 07. = Left against medical advice or discontinued care  
☐ 20. = Expired

1. What is the Medicaid & Medicaid Managed Care Payer Source? Select one:

- |                       | <u>Payer Source Code</u> | <u>DHCFP Payer Source Description</u>                     |
|-----------------------|--------------------------|---|
| <input type="radio"/> | 103                      | Medicaid (includes MassHealth)                            |
| <input type="radio"/> | 104                      | Medicaid Managed Care – Primary Care Clinician (PCC) Plan |

2. What is the patient's MassHealth Recipient ID number? (All alpha characters must be upper case)

\_\_\_\_\_

3. What is the patient's Social Security number?

\_\_\_\_\_

4. What is the unique measurement system-generated number that identifies this episode of care?

\_\_\_\_\_

5. Does this case represent part of a sample?

- ☐ Yes  
☐ No

6. Was there an ICD-9-CM Principal Diagnosis Code of Asthma?

- ☐ No, Review Stops  
\_\_\_\_\_. \_\_\_\_ (6, implied decimal)

7. At the time of discharge was the patient's age 2 years through 17 years?

- ☐ Yes  
☐ No, Review Stops

8. Is there documentation of contraindications/reasons for not prescribing oral or intravenous corticosteroids during this hospitalization?

- ☐ Yes, Review Stops  
☐ No

9. Did the patient receive oral or intravenous corticosteroids during this hospitalization?

- ☐ Yes  
☐ No

## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<b>A header is required at the beginning of each XML file as follows:</b> <?xml version="1.0" encoding="UTF-8" ?>							
<b>&lt;submission&gt;</b>	Opening tag is required.						
	type	Describes the setting for which data is being submitted.	N/A	HOSPITAL	Character	20	Yes
	data	Describes the type of data being submitted.	N/A	CLINICAL	Character	20	Yes
	version	The version of the file layout.	N/A	1.0	Character	20	Yes
	action-code	Describes the intended action of the file being submitted.	N/A	ADD	Character	20	Yes
<b>&lt;file-audit-data&gt;</b> sub-element of the submission data element	Opening tag for file audit data <b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document. If submitted, this tag contains no data. Required if sub-elements are included.						
<b>&lt;create-date&gt;</b> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-date>05-10-2007</create-date>						
	None	The month, day, and year the XML file was created	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
<b>&lt;create-time&gt;</b> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-time>23:01</create-time>						
	None	The hour and minutes representing the time the file was created	N/A	HH:MM (military format with or without colon)	Time	5	Yes
<b>&lt;create-by&gt;</b> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-by>VendorA</create-by>						
	None	The entity that created the file	N/A		Character	50	Yes
<b>&lt;version&gt;</b> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <version>1.0</version>						
	None	The version of the file being submitted	N/A		Character	20	Yes
<b>&lt;create-by-tool&gt;</b> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-by-tool>CART4.1</create-by-tool>						
	None	Tool used to create the XML file	N/A		Character	50	Yes

## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
</file-audit-data>	Closing tag for file audit data	<b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document, but if the opening tag of <file-audit-data> is provided, then this closing tag is required as well.					
<provider> Sub-element of the submission data element	Opening tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<provider-id> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <provider-id>123456</provider-id>						
	None	Used to identify the provider	Provider ID	Valid 6 digit	Character	6	Yes
<npi> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <npi>1234567890</npi>						
	None	National Provider Identifier as assigned by CMS	National Provider Identifier (NPI)	Valid 10 digit NPI Number	Character	10	No
<hcoid> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hcoid>123456</hcoid>						
	None	Used to identify the healthcare organization	Health Care Organization Identifier	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	No
<patient> sub-element of the provider element	Opening tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<first-name> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <first-name>John</first-name>						
	None	The patient's first name	First Name	Patient's First Name	Character	30	Yes
<last-name> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <last-name>Doe</last-name>						
	None	The patient's last name	Last Name	Patient's Last Name	Character	60	Yes

## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<b>&lt;birthdate&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;birthdate&gt;08-06-1964&lt;/birthdate&gt;</b>						
	None	The month, day, and year the patient was born	Birthdate	MM-DD-YYYY (Must be a valid birthdate and cannot equal UTD)	Date	10	Yes
<b>&lt;sex&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;sex&gt;M&lt;/sex&gt;</b>						
	None	The patient's sex	Sex	M,F,U	Character	1	Yes
<b>&lt;race&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;race&gt;1&lt;/race&gt;</b>						
	None	Documentation of the patient's race	Race	1,2,3,4,5,7	Numeric	1	Yes
<b>&lt;ethnic&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;ethnic&gt;Y&lt;/ethnic&gt;</b>						
	None	Documentation that the patient is of Hispanic or Latino ethnicity	Hispanic Ethnicity	Y,N	Character	1	Yes
<b>&lt;postal-code&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;postal-code&gt;50266&lt;/postal-code&gt;</b>						
	None	The postal code of the patient's residence. For USA zip codes, the hyphen is implied. If the patient is determined to not have a permanent residence, then the patient is considered homeless.	Postal Code	(5 or 9 digit without hyphen, "HOMELESS", or Non-US)	Character	9	Yes
<b>&lt;episode-of-care&gt;</b> sub-element of the patient element	Opening tag for episode of care <b>Example with data:</b> <b>&lt;episode-of-care measure-set="MAT-1"&gt;</b>						
	measure-set	The code for the measure set submitted.	Measure set	MAT-1 MAT-2	Character	22	Yes
<b>&lt;admit-date&gt;</b> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;admit-date&gt;04-02-2007&lt;/admit-date&gt;</b>						
	None	The month, day, and year of admission for inpatient care	Admission Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes



## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<discharge-date> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <discharge-date>04-06-2007</discharge-date>						
	None	The month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.	Discharge Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes
<pthic> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <pthic>123456789A</pthic>						
	None	HIC# of the patient The patient's Medicare health insurance claim number.	Patient HIC#	<ul style="list-style-type: none"> <li>No embedded dashes or spaces or special characters</li> <li>Must have both alpha and numeric characters</li> <li>Alpha characters must be upper case</li> <li>Length cannot be more than 12 or less than 7 characters</li> <li>For alphanumeric, do not allow all numeric values to be 9's. For example, do not allow 1 alpha + 999999999, etc.</li> </ul>	Character	7-12	No
<vendor-tracking-id> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <vendor-tracking-id>123456789012</vendor-tracking-id>						
	None	Used by the vendor to identify the episode of care	Vendor Tracking ID	Up to 100 characters	Character	Up to 100	No

## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

<hospital-patient-id> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hospital-patient-id>74185296374185296385</hospital-patient-id>						
	None	Identifier used to identify the patient at the hospital (Medical Record Number)	Hospital Patient Identifier	Up to 40 characters	Character	Up to 40	Yes
<detail> sub-element of the episode-of-care element	<p>Since this is the opening element, the closing tag for this element will be at the end of the record.</p> <p>Attributes describe the element and are included within the opening and closing &lt;&gt;</p> <p><b>Example of Yes/No question (refer to Table A for valid answer codes):</b></p> <p>For discharges 4/1/2007 and forward:</p> <p>&lt;detail answer-code="Y" row-number="0" question-cd="ASPRNRXDIS"&gt;</p> <p><b>Example of multiple choice question (refer to Table A for valid answer codes):</b></p> <p>&lt;detail answer-code="3" row-number="0" question-cd="ANTIBIRCVD"&gt;</p> <p><b>Example of a user-entered code:</b></p> <p>&lt;detail answer-code="001.9" row-number="0" question-cd="OTHRDX#"&gt;</p>						
	answer-code	ID number of the answer	Not a data element itself; each possible answer has its own unique ID	Refer to Table A for valid values	Character	20	Yes
	question-cd	The field name of the question	Not a data element itself; each data element is a question code	Refer to Table A for valid values	Character	20	Yes
	row-number	Used to group answers together for multi-row, multi-column answers	Not a data element itself; used for grouping answers only	0-75 Depending on the number of rows allowed per question.  i.e. Antibiotic Name, Date, Time and Route would have rownumber 0 for the first antibiotic, 1 for the second antibiotic, and so on.	Integer	2	Yes  Default to 0. For multiple answer options, add 1 to the row number for each additional answer

## APPENDIX A-10: XML Schema for MAT-1 and MAT-2 Measures

<b>&lt;answer-value&gt;</b> Sub-element of detail	The answer value <b>Example:</b> <answer-value>No</answer-value>	The description of the answer-code	Not a data element itself; each answer has a value	Place the answer text here. Examples: Yes No Male Female 01-01-2006 <b>Note: All Dates in this field should be formatted as MM-DD-YYYY</b>	Character	2000	No
<b>&lt;/detail&gt;</b>	Closing tag for detail	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/episode-of-care&gt;</b>	Closing tag for episode of care	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/patient&gt;</b>	Closing tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/provider&gt;</b>	Closing tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/submission&gt;</b>	Closing tag for submission	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Admission Source	ADMSNSRC	Alpha	1	1	1	1-Physician referral	All Records
					2	2-Clinic referral	
					3	3-HMO referral	
					4	4-Transfer from a Hospital (Different Facility)	
					5	5-Transfer from Skilled Nursing Facility	
					6	6-Transfer from Another Health Care Facility	
					7	7-Emergency Room	
					8	8-Court/Law Enforcement	
					9	9-Information Not Available	
					A	A-Transfer from a Critical Access Hospital	
					D	D-Transfer from Hospital Inpatient in the Same Facility Resulting in a Separate Claim to the Payer	
Clinical Trial	CLNCLTRIAL	Alpha	1	1	Y	Yes	All Records
					N	No	
Discharge Status	DISCHGSTAT	Alpha	2	1	01	01-Discharged to home care or self care (routine discharge)	All Records
					02	02-Discharged/transferred to a short term general hospital for inpatient care	
					03	03-Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of covered skilled care	
					04	04-Discharged/transferred to an intermediate care facility (ICF)	
					05	05-Discharged/transferred to another type of institution not defined elsewhere in this code list	
					06	06-Discharged/transferred to home under care of organized home health service organization in anticipation of covered skilled care	
					07	07-Left against medical advice or discontinued care	
					20	20-Expired	
					41	41-Expired in a medical facility	
					43	43-Discharged/ transferred to a federal health care facility	
					50	50-Hospice - home	
					51	51-Hospice - medical facility	
					61	61-Discharged/transferred to hospital-based Medicare approved swing bed	

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
					62	62-Discharged/transferred to inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital	
					63	63-Discharged/transferred to a Medicare certified long term care hospital (LTCH)	
					64	64-Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare	
					65	65-Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital	
					66	66 - Discharged/transferred to a Critical Access Hospital (CAH)	
ICD-9-CM Other Diagnosis Codes	OTHRDX#	Alpha	6	17	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal. Allows up to 17 rows	All Records with more than one Diagnosis Code
ICD-9-CM Other Procedure Codes	OTHRPX#	Alpha	5	5	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal. Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Other Procedure Dates	OTHRPX#DT	Date	10	5	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Principal Diagnosis Code	PRINDX	Alpha	6	1	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal	All Records
ICD-9-CM Principal Procedure Code	PRINPX	Alpha	5	1	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal	All records with a principal procedure
ICD-9-CM Principal Procedure Date	PRINPXDATE	Date	10	1	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). All records with a principal procedure	All records with a principal procedure

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Physician 1	PHYSICIAN_1	Alpha	50	1	User Entered	User Entered	Optional
Physician 2	PHYSICIAN_2	Alpha	50	1	User Entered	User Entered	Optional
Provider Name	PROVNAME	Alpha	60	1	User Entered	User Entered	All Records
MH Race	MHRACE	Alpha	2-6	1	R1 R2 R3 R4 R5 R9 UNKNOWN	American Indian or Alaska Native Asian Black/African American Native Hawaiian or Pacific Islander White Other Race Unknown	All Records
Ethnicity code	ETHNICCODE	Alpha	6	1	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#####-#) (see Table B)	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#####-#) (see Table B)	All Records
Hospital Billing Number	HOSPBILL#	Alpha	20	1	Hospital internal billing number. This is a required field.	Hospital internal billing number. This is a required field.	All Records
What is the Medicaid & Medicaid Managed Care Payer Source?	PMTSRCE	Alpha	3	1	103 104	103-Medicaid (includes MassHealth) 104-Medicaid Managed Care - Primary Clinicians (PCC)	All Records
What is the patient's MassHealth Recipient ID number?	MHRIDNO	Alpha	10	1	All alpha characters must be upper case	All alpha characters must be upper case	MAT-1, MAT-2
What is the patient's Social Security number?	SOCSEC#	Alpha	9	1	No dashes	No dashes	MAT-1, MAT-2

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
What is the unique measurement system-generated number that identifies this episode of care?	CID	Numeric	9	1	User entered	Value greater than (0) assigned by the system	MAT-1, MAT-2
Does this case represent part of a sample?	SAMPLE	Alpha	1	1	Y N	Yes No	Required minimum demographic
Was there a Maternity Delivery ICD-9-CM diagnosis code selected for this record?	ICD9MATDELCODE	Alpha	1	1	Y N	Yes No	MAT-1
Was there a Cesarean Delivery ICD-9-CM procedure code selected for this record?	ICD9CSECTDELCODE	Alpha	1	1	Y N	Yes No	MAT-2
At what time was the mother admitted to the labor and delivery unit?	TIMEADMLABDEL	Time	5	1	User Entered Time (with or without colon, HH:MM Military Time)	User Entered Time (with or without colon, HH:MM Military Time)	MAT-1
Did the patient have a pre-natal maternal infection (not GBS) and receive an antibiotic?	PRENINFANTIB	Alpha	1	1	Y N	Yes No	MAT-1
Was a planned Cesarean Delivery performed in the absence of labor or membrane rupture?	PLANCSECTION	Alpha	1	1	Y N	Yes No	MAT-1
What was the gestational age at the time of delivery?	GESTAGE	Numeric	2	1	In completed weeks, no leading zero	In completed weeks, no leading zero	MAT-1
On what date was the Infant delivered?	INFDELDATE	Date	10	1	User Entered Date (MM-DD-YYYY)	User Entered Date (MM-DD-YYYY)	MAT-1, MAT-2
At what time was the infant delivered?	INFDELTIME	Time	5	1	User Entered Time (with or without colon, HH:MM Military Time)	User Entered Time (with or without colon, HH:MM Military Time)	MAT-1, MAT-2

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
					HH:MM (Military Time)		
Did the mother deliver a live newborn?	DELLIVENB	Alpha	1	1	Y N	Yes No	MAT-1
Previous Infant with invasive GBS disease?	PREVINFGBS	Alpha	1	1	Y N	Yes No	MAT-1
Did the mother have GBS bacteriuria during this pregnancy?	GBSBACTPREG	Alpha	1	1	Y N	Yes No	MAT-1
The result of the mother's vaginal and rectal screening culture for GBS at 35-37 weeks was?	GBSRSLTS	Alpha	1	1	P N U	Positive Negative UTD (Unknown)	MAT-1
Gestational age at delivery was < 37 weeks?	GESTAGEWEEKS	Alpha	1	1	Y N	Yes No	MAT-1
Were the amniotic membranes ruptured for 18 or more hours?	AMNMEMBRUPT	Alpha	1	1	Y N	Yes No	MAT-1
Did the mother have an intrapartum temperature of $\geq 100.4$ ( $\geq 38.0^{\circ}\text{C}$ )?	INTRAPARTTEMP	Alpha	1	1	Y N	Yes No	MAT-1
Were IV antibiotics given to the mother intrapartum?	ABXINTRAPARTUM	Alpha	1	1	Y N	Yes No	MAT-1
Did the patient receive an I.V. antibiotic for Cesarean Section prophylaxis?	ABXCSECTION	Alpha	1	1	Y N	Yes No	MAT-2
Antibiotic Name	NAMEABX	Alpha	244	1	Name of antibiotic on table 2.1 of the Specifications Manual	Name of antibiotic on table 2.1 of the Specifications Manual	MAT-1, MAT-2



Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Antibiotic Administration Date	DTABX	Date	10	1	User Entered Date (MM-DD-YYYY)	User Entered Date (MM-DD-YYYY)	MAT-1, MAT-2
Antibiotic Administration Time	TMABX	Time	5	1	User Entered Time (with or without colon, HH:MM Military Time)	User Entered Time (with or without colon, HH:MM Military Time)	MAT-1, MAT-2
Was "other" antibiotic selected?	OTHERABX	Alpha	1	1	Y N	Yes No	MAT-1, MAT-2
If yes, was "other" antibiotic specifically documented as being used for prophylaxis?	DOCPROPHYLAX	Alpha	1	1	Y N	Yes No	MAT-1, MAT-2
Did the patient have confirmed or suspected infection during this hospitalization prior to the c-section?	CONFSUSPINFECT	Alpha	1	1	Y N	Yes No	MAT-2
Did the patient receive antibiotic treatment for prophylaxis within 24 hours prior to surgery?	PROPHYLAXCSECT	Alpha	20	1	a b c	a - GBS b- Other Prophylaxis c- No prophylaxis	MAT-2
Were there any other procedures requiring general or spinal anesthesia that occurred within three days prior to or after the principal procedure during this hospital stay?	OTHERSURG	Alpha	1	1	Y N	Yes No	MAT-2
On what date did the Cesarean Section start?	CSECTDATE	Date	10	1	User Entered Date (MM-DD-YYYY)	User Entered Date (MM-DD-YYYY)	MAT-2
At what time was the initial incision made for the Cesarean Section?	INITINCISIONTIME	Time	5	1	User Entered Time (with or without colon, HH:MM Military Time)	User Entered Time (with or without colon, HH:MM Military Time)	MAT-2

Table A for MAT-1 and MAT-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Did the patient have any allergies, sensitivities, or intolerance to beta-lactam/penicillin antibiotics, cephalosporin medications, or aminoglycosides?	ANTIALLERGY	Alpha	1	1	Y	Yes	MAT-1, MAT-2
					N	No	

Table B for MAT-1 and MAT-2 Measures

Question	Field Name	Valid Values	Value Descriptions
MH Race	MHRACE	R1	American Indian or Alaska Native
		R2	Asian
		R3	Black/African American
		R4	Native Hawaiian or Pacific Islander
		R5	White
		R9	Other Race
		UNKNOWN	Unknown
Ethnicity Code	ETHNICCODE	2182-4	Cuban
		2184-0	Dominican
		2148-5	Mexican, Mexican American, Chicano
		2180-8	Puerto Rican
		2161-8	Salvadoran
		2155-0	Central American (not specified)
		2165-9	South American (not specified)
		2060-2	African
		2058-6	African American
		AMERCN	American
		2028-9	Asian
		2029-7	Asian Indian
		BRAZIL	Brazilian
		2033-9	Cambodian
		CVERDN	Cape Verdean
		CARIBI	Caribbean Island
		2034-7	Chinese
		2169-1	Columbian
		2108-9	European
		2036-2	Filipino
		2157-6	Guatemalan
		2071-9	Haitian
		2158-4	Honduran
		2039-6	Japanese
		2040-4	Korean
		2041-2	Laotian
		2118-8	Middle Eastern
		PORTUG	Portuguese
		RUSSIA	Russian
		EASTEU	Eastern European
		2047-9	Vietnamese
		OTHER	Other Ethnicity
		UNKNOWN	Unknown / not specified

## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
A header is required at the beginning of each XML file as follows: <?xml version="1.0" encoding="UTF-8" ?>							
<submission>	Opening tag is required.						
	type	Describes the setting for which data is being submitted.	N/A	HOSPITAL	Character	20	Yes
	data	Describes the type of data being submitted.	N/A	CLINICAL	Character	20	Yes
	version	The version of the file layout.	N/A	1.0	Character	20	Yes
	action-code	Describes the intended action of the file being submitted.	N/A	ADD	Character	20	Yes
<file-audit-data> sub-element of the submission data element	Opening tag for file audit data	<b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document. If submitted, this tag contains no data. Required if sub-elements are included.					
<create-date> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-date>05-10-2007</create-date>						
	None	The month, day, and year the XML file was created	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
<create-time> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-time>23:01</create-time>						
	None	The hour and minutes representing the time the file was created	N/A	HH:MM (military format with or without colon)	Time	5	Yes
<create-by> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-by>VendorA</create-by>						
	None	The entity that created the file	N/A		Character	50	Yes
<version> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <version>1.0</version>						
	None	The version of the file being submitted	N/A		Character	20	Yes
<create-by-tool> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <create-by-tool>CART4.1</create-by-tool>						

## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
	None	Tool used to create the XML file	N/A		Character	50	Yes
</file-audit-data>	Closing tag for file audit data	<b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document, but if the opening tag of <file-audit-data> is provided, then this closing tag is required as well.					
<provider> Sub-element of the submission data element	Opening tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<provider-id> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <provider-id>123456</provider-id>						
	None	Used to identify the provider	Provider ID	Valid 6 digit	Character	6	Yes
<npi> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <npi>1234567890</npi>						
	None	National Provider Identifier as assigned by CMS	National Provider Identifier (NPI)	Valid 10 digit NPI Number	Character	10	No
<hcoid> sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hcoid>123456</hcoid>						
	None	Used to identify the healthcare organization	Health Care Organization Identifier	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	No
<patient> sub-element of the provider element	Opening tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<first-name> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <first-name>John</first-name>						
	None	The patient's first name	First Name	Patient's First Name	Character	30	Yes
<last-name> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <last-name>Doe</last-name>						

## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
	None	The patient's last name	Last Name	Patient's Last Name	Character	60	Yes
<birthdate> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <birthdate>08-06-1964</birthdate>						
	None	The month, day, and year the patient was born	Birthdate	MM-DD-YYYY (Must be a valid birthdate and cannot equal UTD)	Date	10	Yes
<sex> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <sex>M</sex>						
	None	The patient's sex	Sex	M,F,U	Character	1	Yes
<race> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <race>1</race>						
	None	Documentation of the patient's race	Race	1,2,3,4,5,7	Numeric	1	Yes
<ethnic> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <ethnic>Y</ethnic>						
	None	Documentation that the patient is of Hispanic or Latino ethnicity	Hispanic Ethnicity	Y,N	Character	1	Yes
<postal-code> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <postal-code>50266</postal-code>						
	None	The postal code of the patient's residence. For USA zip codes, the hyphen is implied. If the patient is determined to not have a permanent residence, then the patient is considered homeless.	Postal Code	(5 or 9 digit without hyphen, "HOMELESS", or Non-US)	Character	9	Yes
<episode-of-care> sub-element of the patient element	Opening tag for episode of care	<b>Example with data:</b> <episode-of-care measure-set ="NICU-1">					
	measure-set	The code for the measure set submitted.	Measure set	NICU-1	Character	22	Yes
<admit-date> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <admit-date>04-02-2007</admit-date>						
	None	The month, day, and year of admission for inpatient care	Admission Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes

## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<discharge-date> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <discharge-date>04-06-2007</discharge-date>						
	None	The month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.	Discharge Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes
<pthic> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <pthic>123456789A</pthic>						
	None	HIC# of the patient The patient's Medicare health insurance claim number.	Patient HIC#	<ul style="list-style-type: none"> <li>No embedded dashes or spaces or special characters</li> <li>Must have both alpha and numeric characters</li> <li>Alpha characters must be upper case</li> <li>Length cannot be more than 12 or less than 7 characters</li> <li>For alphanumeric, do not allow all numeric values to be 9's. For example, do not allow 1 alpha + 999999999, etc.</li> </ul>	Character	7-12	No
<vendor-tracking-id> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <vendor-tracking-id>123456789012</vendor-tracking-id>						
	None	Used by the vendor to identify the episode of care	Vendor Tracking ID	Up to 100 characters	Character	Up to 100	No
<hospital-patient-id> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hospital-patient-id>74185296374185296385</hospital-patient-id>						
	None	Identifier used to identify the patient at the hospital (Medical Record Number)	Hospital Patient Identifier	Up to 40 characters	Character	Up to 40	Yes

## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<detail> sub-element of the episode-of-care element	<p>Since this is the opening element, the closing tag for this element will be at the end of the record.</p> <p>Attributes describe the element and are included within the opening and closing &lt;&gt;</p> <p><b>Example of Yes/No question (refer to Table A for valid answer codes):</b>  For discharges 4/1/2007 and forward:  &lt;detail answer-code="Y" row-number="0" question-cd="ASPRNRXDIS"&gt;</p> <p><b>Example of multiple choice question (refer to Table A for valid answer codes):</b>  &lt;detail answer-code="3" row-number="0" question-cd="ANTIBIRCVD"&gt;</p> <p><b>Example of a user-entered code:</b>  &lt;detail answer-code="001.9" row-number="0" question-cd="OTHRDX#"&gt;</p>						
	answer-code	ID number of the answer	Not a data element itself; each possible answer has its own unique ID	Refer to Table A for valid values	Character	20	Yes
	question-cd	The field name of the question	Not a data element itself; each data element is a question code	Refer to Table A for valid values	Character	20	Yes
	row-number	Used to group answers together for multi-row, multi-column answers	Not a data element itself; used for grouping answers only	0-75 Depending on the number of rows allowed per question.  i.e. Antibiotic Name, Date, Time and Route would have rownumber 0 for the first antibiotic, 1 for the second antibiotic, and so on.	Integer	2	Yes  Default to 0. For multiple answer options, add 1 to the row number for each additional answer



## APPENDIX A-11: XML Schema for Neonatal (NICU-1) Measure

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<b>&lt;answer-value&gt;</b> Sub-element of detail	The answer value <b>Example:</b> <answer-value>No</answer-value>	The description of the answer-code	Not a data element itself; each answer has a value	Place the answer text here. Examples: Yes No Male Female 01-01-2006 <b>Note: All Dates in this field should be formatted as MM-DD-YYYY</b>	Character	2000	No
<b>&lt;/detail&gt;</b>	Closing tag for detail	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/episode-of-care&gt;</b>	Closing tag for episode of care	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/patient&gt;</b>	Closing tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/provider&gt;</b>	Closing tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/submission&gt;</b>	Closing tag for submission	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					

Table A for NICU-1 Measure

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Admission Source	ADMSNSRC	Alpha	1	1	1	1-Physician referral	All Records
					2	2-Clinic referral	
					3	3-HMO referral	
					4	4-Transfer from a Hospital (Different Facility)	
					5	5-Transfer from Skilled Nursing Facility	
					6	6-Transfer from Another Health Care Facility	
					7	7-Emergency Room	
					8	8-Court/Law Enforcement	
					9	9-Information Not Available	
					A	A-Transfer from a Critical Access Hospital	
					D	D-Transfer from Hospital Inpatient in the Same Facility Resulting in a Separate Claim to the Payer	
Clinical Trial	CLNCLTRIAL	Alpha	1	1	Y	Yes	All Records
					N	No	
Discharge Status	DISCHGSTAT	Alpha	2	1	01	01-Discharged to home care or self care (routine discharge)	All Records
					02	02-Discharged/transferred to a short term general hospital for inpatient care	
					03	03-Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of covered skilled care	
					04	04-Discharged/transferred to an intermediate care facility (ICF)	
					05	05-Discharged/transferred to another type of institution not defined elsewhere in this code list	
					06	06-Discharged/transferred to home under care of organized home health service organization in anticipation of covered skilled care	
					07	07-Left against medical advice or discontinued care	
					20	20-Expired	
					41	41-Expired in a medical facility	
					43	43-Discharged/ transferred to a federal health care facility	
					50	50-Hospice - home	
					51	51-Hospice - medical facility	

Table A for NICU-1 Measure

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
					61	61-Discharged/transferred to hospital-based Medicare approved swing bed	
					62	62-Discharged/transferred to inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital	
					63	63-Discharged/transferred to a Medicare certified long term care hospital (LTCH)	
					64	64-Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare	
					65	65-Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital	
					66	66 - Discharged/transferred to a Critical Access Hospital (CAH)	
ICD-9-CM Other Diagnosis Codes	OTHRDX#	Alpha	6	17	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal. Allows up to 17 rows	All Records with more than one Diagnosis Code
ICD-9-CM Other Procedure Codes	OTHRPX#	Alpha	5	5	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal. Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Other Procedure Dates	OTHRPX#DT	Date	10	5	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Principal Diagnosis Code	PRINDX	Alpha	6	1	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal	All Records
ICD-9-CM Principal Procedure Code	PRINPX	Alpha	5	1	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal	All records with a principal procedure
ICD-9-CM Principal Procedure Date	PRINPXDATE	Date	10	1	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). All records with a principal procedure	All records with a principal procedure
Physician 1	PHYSICIAN_1	Alpha	50	1	User Entered	User Entered	Optional
Physician 2	PHYSICIAN_2	Alpha	50	1	User Entered	User Entered	Optional

Table A for NICU-1 Measure

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Provider Name	PROVNAME	Alpha	60	1	User Entered	User Entered	All Records
MH Race	MHRACE	Alpha	2-6	1	R1 R2 R3 R4 R5 R9 UNKNOW	American Indian or Alaska Native Asian Black/African American Native Hawaiian or Pacific Islander White Other Race Unknown	All Records
Ethnicity code	ETHNICCODE	Alpha	6	1	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#### #) (see Table B)	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#### #) (see Table B)	All Records
Hospital Billing Number	HOSPBILL#	Alpha	20	1	Hospital internal billing number. This is a required field.	Hospital internal billing number. This is a required field.	All Records
What is the Medicaid & Medicaid Managed Care Payer Source?	PMTSRCE	Alpha	3	1	103 104	103-Medicaid (includes MassHealth) 104-Medicaid Managed Care - Primary Clinicians (PCC)	All Records
What is the patient's MassHealth Recipient ID number?	MHRIDNO	Alpha	10	1	All alpha characters must be uppercase.	All alpha characters must be uppercase.	NICU-1
What is the patient's Social Security number?	SOCSEC#	Alpha	9	1	No dashes	No dashes	NICU-1
What is the unique measurement system-generated number that identifies this episode of care?	CID	Numeric	9	1	User entered	Value greater than (0) assigned by the system	NICU-1
Does this case represent part of	SAMPLE	Alpha	1	1	Y	Yes	Required minimum demographic

Table A for NICU-1 Measure

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
a sample?					N	No	
Was the Principle or Secondary ICD-9 Diagnosis Code of Delivery < 1500 grams or gestational age between 24 weeks 0 days and 33 weeks 6 days selected for this record?	LWBRTHWGTORGEST AGE	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Was the mother's age less then 18 years old?	LT18YEARS	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Was mother transferred in?	TRANSFIN	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Was mother transferred out?	TRANSFOUT	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Was there documentation of one or more of the following contraindications to administer antenatal steroids to the mother?	CTRAANTENATSTR	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Maternal thyrotoxicosis	MATTHYROTOX	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Maternal cardiomyopathy	MATCARDIOM	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Active maternal infection or chorioamnionitis	MATINFORCHORIAM	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Ruptured membranes and imminent delivery within 6-12 hours	RUPTMEMANDDEL	Alpha	1	1	Y	Yes	NICU-1
					N	No	

Table A for NICU-1 Measure

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Fetal demise	FETALDEMISE	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Mother with tuberculosis	MOTHTUBERCULOS	Alpha	1	1	Y	Yes	NICU-1
					N	No	
Other reasons as documented by physician or nurse practitioner, or physician assistant	OTHRREASND0C	Alpha	1	1	Y	Yes	NICU-1
					N	No	
What was the infant's birth weight in grams?	BIRTHWEIGHT	Alpha	4	1	No leading zeros or UTD	No leading zeros or UTD	NICU-1
What was the infant's gestational age? (in weeks)	GESTAGE	Numeric	2	1	In completed weeks, no leading zero, 24-33	In completed weeks, no leading zero, 24-33	NICU-1
What was the infant's gestational age? (in days)	GESTAGEDAYS	Numeric	1	1	In completed days, 0-6	In completed days, 0-6	NICU-1
Did the mother receive antenatal steriods (corticosteroids administered IM or IV) during pregnancy at any time prior to delivery of a very low birth weight infant?	RECVANTENATSTR	Alpha	1	1	Y	Yes	NICU-1
					N	No	

Table B for NICU-1 Measure

Question	Field Name	Valid Values	Value Descriptions
MH Race	MHRACE	R1	American Indian or Alaska Native
		R2	Asian
		R3	Black/African American
		R4	Native Hawaiian or Pacific Islander
		R5	White
		R9	Other Race
		UNKNOW	Unknown
Ethnicity Code	ETHNICCODE	2182-4	Cuban
		2184-0	Dominican
		2148-5	Mexican, Mexican American, Chicano
		2180-8	Puerto Rican
		2161-8	Salvadoran
		2155-0	Central American (not specified)
		2165-9	South American (not specified)
		2060-2	African
		2058-6	African American
		AMERCN	American
		2028-9	Asian
		2029-7	Asian Indian
		BRAZIL	Brazilian
		2033-9	Cambodian
		CVERDN	Cape Verdean
		CARIBI	Caribbean Island
		2034-7	Chinese
		2169-1	Columbian
		2108-9	European
		2036-2	Filipino
		2157-6	Guatemalan
		2071-9	Haitian
		2158-4	Honduran
		2039-6	Japanese
		2040-4	Korean
		2041-2	Laotian
		2118-8	Middle Eastern
		PORTUG	Portuguese
		RUSSIA	Russian
		EASTEU	Eastern European
		2047-9	Vietnamese
		OTHER	Other Ethnicity
		UNKNOW	Unknown / not specified

## APPENDIX A-12: XML Schema for CAC-1and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
A header is required at the beginning of each XML file as follows: <?xml version="1.0" encoding="UTF-8" ?>							
<submission>	Opening tag is required.						
	type	Describes the setting for which data is being submitted.	N/A	HOSPITAL	Character	20	Yes
	data	Describes the type of data being submitted.	N/A	CLINICAL	Character	20	Yes
	version	The version of the file layout.	N/A	1.0	Character	20	Yes
	action-code	Describes the intended action of the file being submitted.	N/A	ADD	Character	20	Yes
<file-audit-data> sub-element of the submission data element	Opening tag for file audit data	<b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document. If submitted, this tag contains no data. Required if sub-elements are included.					
<create-date> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data: &lt;create-date&gt;05-10-2007&lt;/create-date&gt;</b>						
	None	The month, day, and year the XML file was created	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
<create-time> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data: &lt;create-time&gt;23:01&lt;/create-time&gt;</b>						
	None	The hour and minutes representing the time the file was created	N/A	HH:MM (military format with or without colon)	Time	5	Yes
<create-by> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data: &lt;create-by&gt;VendorA&lt;/create-by&gt;</b>						
	None	The entity that created the file	N/A		Character	50	Yes
<version> sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data: &lt;version&gt;1.0&lt;/version&gt;</b>						
	None	The version of the file being submitted	N/A		Character	20	Yes
<create-by-tool> sub-element of the file audit data	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data: &lt;create-by-tool&gt;CART4.1&lt;/create-by-tool&gt;</b>						



## APPENDIX A-12: XML Schema for CAC-1and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
element	None	Tool used to create the XML file	N/A		Character	50	Yes
</file-audit-data>	Closing tag for file audit data	<b>Note:</b> This tag and the entire <file-audit-data> section are optional in the XML document, but if the opening tag of <file-audit-data> is provided, then this closing tag is required as well.					
<provider>	Opening tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
Sub-element of the submission data element							
<provider-id>	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <provider-id>123456</provider-id>						
sub-element of the provider element	None	Used to identify the provider	Provider ID	Valid 6 digit	Character	6	Yes
<npi>	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <npi>1234567890</npi>						
sub-element of the provider element	None	National Provider Identifier as assigned by CMS	National Provider Identifier (NPI)	Valid 10 digit NPI Number	Character	10	No
<hcoid>	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hcoid>123456</hcoid>						
sub-element of the provider element	None	Used to identify the healthcare organization	Health Care Organization Identifier	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	See ORYX Technical Implementation Guide	No
<patient>	Opening tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
sub-element of the provider element							
<first-name>	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <first-name>John</first-name>						
sub-element of the patient element	None	The patient's first name	First Name	Patient's First Name	Character	30	Yes

## APPENDIX A-12: XML Schema for CAC-1and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<b>&lt;last-name&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;last-name&gt;Doe&lt;/last-name&gt;</b>						
	None	The patient's last name	Last Name	Patient's Last Name	Character	60	Yes
<b>&lt;birthdate&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;birthdate&gt;08-06-1964&lt;/birthdate&gt;</b>						
	None	The month, day, and year the patient was born	Birthdate	MM-DD-YYYY (Must be a valid birthdate and cannot equal UTD)	Date	10	Yes
<b>&lt;sex&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;sex&gt;M&lt;/sex&gt;</b>						
	None	The patient's sex	Sex	M,F,U	Character	1	Yes
<b>&lt;race&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;race&gt;1&lt;/race&gt;</b>						
	None	Documentation of the patient's race	Race	1,2,3,4,5,7	Numeric	1	Yes
<b>&lt;ethnic&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;ethnic&gt;Y&lt;/ethnic&gt;</b>						
	None	Documentation that the patient is of Hispanic or Latino ethnicity	Hispanic Ethnicity	Y,N	Character	1	Yes
<b>&lt;postal-code&gt;</b> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;postal-code&gt;50266&lt;/postal-code&gt;</b>						
	None	The postal code of the patient's residence. For USA zip codes, the hyphen is implied. If the patient is determined to not have a permanent residence, then the patient is considered homeless.	Postal Code	(5 or 9 digit without hyphen, "HOMELESS", or Non-US)	Character	9	Yes
<b>&lt;episode-of-care&gt;</b> sub-element of the patient element	Opening tag for episode of care <b>Example with data:</b> <b>&lt;episode-of-care measure-set ="CAC-1a"&gt;</b>						
	measure-set	The code for the measure set submitted.	Measure set	CAC-1a CAC-2a	Character	22	Yes

## APPENDIX A-12: XML Schema for CAC-1 and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<admit-date> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <admit-date>04-02-2007</admit-date>						
	None	The month, day, and year of admission for inpatient care	Admission Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes
<discharge-date> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <discharge-date>04-06-2007</discharge-date>						
	None	The month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.	Discharge Date	MM-DD-YYYY (Must be a valid date and cannot equal UTD)	Date	10	Yes
<pthic> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <pthic>123456789A</pthic>						
	None	HIC# of the patient The patient's Medicare health insurance claim number.	Patient HIC#	No embedded dashes or spaces or special characters · Must have both alpha and numeric characters · Alpha characters must be upper case · Length cannot be more than 12 or less than 7 characters · For alphanumeric, do not allow all numeric values to be 9's. For example, do not allow 1 alpha + 999999999, etc.	Character	7-12	No
<vendor-tracking-id> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <vendor-tracking-id>123456789012</vendor-tracking-id>						

## APPENDIX A-12: XML Schema for CAC-1and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
	None	Used by the vendor to identify the episode of care	Vendor Tracking ID	Up to 100 characters	Character	Up to 100	No
<b>&lt;hospital-patient-id&gt;</b> sub-element of the episode-of-care element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <b>&lt;hospital-patient-id&gt;74185296374185296385&lt;/hospital-patient-id&gt;</b>						
	None	Identifier used to identify the patient at the hospital (Medical Record Number)	Hospital Patient Identifier	Up to 40 characters	Character	Up to 40	Yes
<b>&lt;detail&gt;</b> sub-element of the episode-of-care element	<p>Since this is the opening element, the closing tag for this element will be at the end of the record. Attributes describe the element and are included within the opening and closing &lt;&gt;</p> <p><b>Example of Yes/No question (refer to Table A for valid answer codes):</b>  For discharges 4/1/2007 and forward:  <b>&lt;detail answer-code="Y" row-number="0" question-cd="ASPRNRXDIS"&gt;</b></p> <p><b>Example of multiple choice question (refer to Table A for valid answer codes):</b>  <b>&lt;detail answer-code="3" row-number="0" question-cd="ANTIBIRCVD"&gt;</b></p> <p><b>Example of a user-entered code:</b>  <b>&lt;detail answer-code="001.9" row-number="0" question-cd="OTHRDX#"&gt;</b></p>						
	answer-code	ID number of the answer	Not a data element itself; each possible answer has its own unique ID	Refer to Table A for valid values	Character	20	Yes
	question-cd	The field name of the question	Not a data element itself; each data element is a question code	Refer to Table A for valid values	Character	20	Yes

## APPENDIX A-12: XML Schema for CAC-1 and CAC-2 Measures

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
	row-number	Used to group answers together for multi-row, multi-column answers	Not a data element itself; used for grouping answers only	0-75 Depending on the number of rows allowed per question.  i.e. Antibiotic Name, Date, Time and Route would have row number 0 for the first antibiotic, 1 for the second antibiotic, and so on.	Integer	2	Yes  Default to 0. For multiple answer options, add 1 to the row number for each additional answer
<b>&lt;answer-value&gt;</b> Sub-element of detail	The answer value <b>Example:</b> <answer-value>No</answer-value>	The description of the answer-code	Not a data element itself; each answer has a value	Place the answer text here. Examples: Yes No Male Female 01-01-2006 <b>Note: All Dates in this field should be formatted as MM-DD-YYYY</b>	Character	2000	No
<b>&lt;/detail&gt;</b>	Closing tag for detail	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/episode-of-care&gt;</b>	Closing tag for episode of care	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/patient&gt;</b>	Closing tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/provider&gt;</b>	Closing tag for provider	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
<b>&lt;/submission&gt;</b>	Closing tag for submission	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					

Table A for CAC-1 and CAC-2 Measures

Question	Question / Field Name	Data Type	Lengh	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Admission Source	ADMSNSRC	Alpha	1	1	1	1-Physician referral	All Records
					2	2-Clinic referral	
					3	3-HMO referral	
					4	4-Transfer from a Hospital (Different Facility)	
					5	5-Transfer from Skilled Nursing Facility	
					6	6-Transfer from Another Health Care Facility	
					7	7-Emergency Room	
					8	8-Court/Law Enforcement	
					9	9-Information Not Available	
					A	A-Transfer from a Critical Access Hospital	
					D	D-Transfer from Hospital Inpatient in the Same Facility Resulting in a Separate Claim to the Payer	
Clinical Trial	CLNCLTRIAL	Alpha	1	1	Y	Yes	All Records
					N	No	
Discharge Status	DISCHGSTAT	Alpha	2	1	01	01-Discharged to home care or self care (routine discharge)	All Records
					02	02-Discharged/transferred to a short term general hospital for inpatient care	
					03	03-Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of covered skilled care	
					04	04-Discharged/transferred to an intermediate care facility (ICF)	
					05	05-Discharged/transferred to another type of institution not defined elsewhere in this code list	
					06	06-Discharged/transferred to home under care of organized home health service organization in anticipation of covered skilled care	
					07	07-Left against medical advice or discontinued care	
					20	20-Expired	
					41	41-Expired in a medical facility	
					43	43-Discharged/ transferred to a federal health care facility	
					50	50-Hospice - home	
					51	51-Hospice - medical facility	

Table A for CAC-1 and CAC-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
					61	61-Discharged/transferred to hospital-based Medicare approved swing bed	
					62	62-Discharged/transferred to inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital	
					63	63-Discharged/transferred to a Medicare certified long term care hospital (LTCH)	
					64	64-Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare	
					65	65-Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital	
					66	66 - Discharged/transferred to a Critical Access Hospital (CAH)	
ICD-9-CM Other Diagnosis Codes	OTHRDX#	Alpha	6	17	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal. Allows up to 17 rows	All Records with more than one Diagnosis Code
ICD-9-CM Other Procedure Codes	OTHRPX#	Alpha	5	5	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal. Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Other Procedure Dates	OTHRPX#DT	Date	10	5	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). Allows up to 5 rows	All Records with more than one Procedure Code
ICD-9-CM Principal Diagnosis Code	PRINDX	Alpha	6	1	ICD-9-CM Diagnosis code, with or without decimal	ICD-9-CM Diagnosis code, with or without decimal	All Records
ICD-9-CM Principal Procedure Code	PRINPX	Alpha	5	1	ICD-9-CM Procedure code, with or without decimal	ICD-9-CM Procedure code, with or without decimal	All records with a principal procedure
ICD-9-CM Principal Procedure Date	PRINPXDATE	Date	10	1	User Entered (MM-DD-YYYY)	User Entered (MM-DD-YYYY). All records with a principal procedure	All records with a principal procedure
Physician 1	PHYSICIAN_1	Alpha	50	1	User Entered	User Entered	Optional
Physician 2	PHYSICIAN_2	Alpha	50	1	User Entered	User Entered	Optional

Table A for CAC-1 and CAC-2 Measures

Question	Question / Field Name	Data Type	Length	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Provider Name	PROVNAME	Alpha	60	1	User Entered	User Entered	All Records
MH Race	MHRACE	Alpha	2-6	1	R1 R2 R3 R4 R5 R9 UNKNOW	American Indian or Alaska Native Asian Black/African American Native Hawaiian or Pacific Islander White Other Race Unknown	All Records
Ethnicity code	ETHNICCODE	Alpha	6	1	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#### #) (see Table B)	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (#### #) (see Table B)	All Records
Hospital Billing Number	HOSPBILL#	Alpha	20	1	Hospital internal billing number. This is a required field.	Hospital internal billing number. This is a required field.	All Records
What is the Medicaid & Medicaid Managed Care Payer Source?	PMTSRCE	Alpha	3	1	103 104	103-Medicaid (includes MassHealth) 104-Medicaid Managed Care - Primary Clinicians (PCC)	All Records
What is the patient's MassHealth Recipient ID number?	MHRIDNO	Alpha	10	1	All alpha characters must be upper case	All alpha characters must be upper case	CAC-1a, CAC-2a
What is the patient's Social Security number?	SOCSEC#	Alpha	9	1	No dashes	No dashes	CAC-1a, CAC-2a
What is the unique measurement system-generated number that identifies this episode of care?	CID	Numeric	9	1	User entered	Value greater than (0) assigned by the system	CAC-1a, CAC-2a
Does this case represent part of a sample?	SAMPLE	Alpha	1	1	Y N	Yes No	Required minimum demographic



Table A for CAC-1 and CAC-2 Measures

Question	Question / Field Name	Data Type	Lengh	Occurrence	Answer Code	Answer Value	Applicable Measure(s)
Was there an ICD-9-CM Principle Diagnosis Code of Asthma?	PRINDXASTHMA	Alpha	1	1	Y	Yes	CAC-1a, CAC-2a
					N	No	
At the time of discharge was the patient's age 2 years through 17 years?	DISCHARGEAGE	Alpha	1	1	Y	Yes	CAC-1a, CAC-2a
					N	No	
Is there documentation of contraindications/reasons for prescribing relievers during this hospitalization?	CTRRELIEVERS	Alpha	1	1	Y	Yes	CAC-1a
					N	No	
Did the patient receive a reliever medication(s) during this hospitalization?	RELIEVERSADM	Alpha	1	1	Y	Yes	CAC-1a
					N	No	
Is there documentation of contraindications/reasons for not prescribing oral or intravenous corticosteroids during this hospitalization?	CTRSYSCORTSTR	Alpha	1	1	Y	Yes	CAC-2a
					N	No	
Did the patient receive oral intravenous corticosteroids during this hospitalization?	SYSCORTSTRADM	Alpha	1	1	Y	Yes	CAC-2a
					N	No	

Table B for CAC-1 and CAC-2 Measures

Question	Field Name	Valid Values	Value Descriptions
MH Race	MHRACE	R1	American Indian or Alaska Native
		R2	Asian
		R3	Black/African American
		R4	Native Hawaiian or Pacific Islander
		R5	White
		R9	Other Race
		UNKNOW	Unknown
Ethnicity Code	ETHNICCODE	2182-4	Cuban
		2184-0	Dominican
		2148-5	Mexican, Mexican American, Chicano
		2180-8	Puerto Rican
		2161-8	Salvadoran
		2155-0	Central American (not specified)
		2165-9	South American (not specified)
		2060-2	African
		2058-6	African American
		AMERCN	American
		2028-9	Asian
		2029-7	Asian Indian
		BRAZIL	Brazilian
		2033-9	Cambodian
		CVERDN	Cape Verdean
		CARIBI	Caribbean Island
		2034-7	Chinese
		2169-1	Columbian
		2108-9	European
		2036-2	Filipino
		2157-6	Guatemalan
		2071-9	Haitian
		2158-4	Honduran
		2039-6	Japanese
		2040-4	Korean
		2041-2	Laotian
		2118-8	Middle Eastern
		PORTUG	Portuguese
		RUSSIA	Russian
		EASTEU	Eastern European
		2047-9	Vietnamese
		OTHER	Other Ethnicity
		UNKNOW	Unknown / not specified

# APPENDIX A-13: XML Schema for MassHealth Identifier Crosswalk File

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
A header is required at the beginning of each XML file as follows: <?xml version="1.0" encoding="ISO-8859-1" ?>							
<submission>	Opening tag is required.						
	type	Describes the setting for which data is being submitted.	N/A	CROSS-WALK	Character	20	Yes
	data	Describes the type of data being submitted.	N/A	IDENTIFICATION	Character	20	Yes
	version	The version of the file layout.	N/A	1.0	Character	20	Yes
	action-code	Describes the intended action of the file being submitted.	N/A	ADD	Character	20	Yes
<patient> sub-element of the submission element	Opening tag for patient	Note: This tag is required in the XML document. However, it contains no data.					
<hospital-patient-id> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. Example with data: <hospital-patient-id>74185296374185296385</hospital-patient-id>						
	None	Identifier used to identify the patient at the hospital (Medical Record Number)	Hospital Patient Identifier	Up to 40 characters	Character	Up to 40	Yes
<case-identifier> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. Example with data: <case-identifier>123456789</case-identifier>						
	None	A measurement system-generated number that uniquely identifies an episode of care.	CID	Value greater than (0) assigned by the system.	Numeric	9	Yes
<patient-rid-no> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. Example with data: <patient-rid-no>1234567890</patient-rid-no>						
	None	Patient's MassHealth Recipient Identification number	MHRIDNO	All alpha characters must be upper case	Character	10	Yes
<patient-ssn> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. Example with data: <patient-ssn>012345678</patient-ssn>						
	If the Patient does not have a social security number, then this tag should contain an empty value. Example with data: <patient-ssn></patient-ssn>						
	None	Patient's Social Security Number	SOCSEC#	no dashes	Character	9	Yes

## APPENDIX A-13: XML Schema for MassHealth Identifier Crosswalk File

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
<birthdate> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <birthdate>08-06-1964</birthdate>						
	None	The month, day and year the patient was born	Birthdate	MM-DD-YYYY (Must be valid a birthdate and cannot equal UTD)	Date	10	Yes
<hospital-bill-no> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <hospital-bill-no>45678912878492432430</hospital-bill-no> <b>Note:</b> This field is mandatory						
	None	Hospital internal billing number	HOSPBILL#	Alphanumerics	Character	20	Yes
<mhrace> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <mhrace>M</mhrace>						
	None	Documentation of the patient's race	Race	R1,R2,R3,R4,R5,R9,UNKNOWN (see Table A)	Character	2-6	Yes
<ethnic> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <ethnic>Y</ethnic>						
	None	Documentation that the patient is of Hispanic or Latino ethnicity	Hispanic Ethnicity	Y,N	Character	1	Yes
<ethniccode> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <ethnic-code>1234-5</ethnic-code>						
	None	Documentation of the patient's ethnicity code	ETHNICCODE	Alpha 6 characters or numeric is 5 numbers with a hyphen after the 4th number (####-#) (see Table A)	Character	6	Yes
<payment-source> sub-element of the patient element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. <b>Example with data:</b> <payment-source>103</payment-source>						

## APPENDIX A-13: XML Schema for MassHealth Identifier Crosswalk File

XML Element	Attributes	Description	Data Element	Valid Values	Data Types	Field Size	Data Required (MassHealth)
	None	Source of payment for the services provided to the patient.	PMTSRCE	103-Medicaid (includes MassHealth) 104-Medicaid Managed Care, Primary Clinicians (PCC)	Character	3	Yes
</patient>	Closing tag for patient	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					
</submission>	Closing tag for submission	<b>Note:</b> This tag is required in the XML document. However, it contains no data.					

Table A for MassHealth Identifier Crosswalk File

Question	Field Name	Valid Values	Value Descriptions
MH Race	MHRACE	R1	American Indian or Alaska Native
		R2	Asian
		R3	Black/African American
		R4	Native Hawaiian or Pacific Islander
		R5	White
		R9	Other Race
		UNKNOW	Unknown
Ethnicity Code	ETHNICCODE	2182-4	Cuban
		2184-0	Dominican
		2148-5	Mexican, Mexican American, Chicano
		2180-8	Puerto Rican
		2161-8	Salvadoran
		2155-0	Central American (not specified)
		2165-9	South American (not specified)
		2060-2	African
		2058-6	African American
		AMERCN	American
		2028-9	Asian
		2029-7	Asian Indian
		BRAZIL	Brazilian
		2033-9	Cambodian
		CVERDN	Cape Verdean
		CARIBI	Caribbean Island
		2034-7	Chinese
		2169-1	Columbian
		2108-9	European
		2036-2	Filipino
		2157-6	Guatemalan
		2071-9	Haitian
		2158-4	Honduran
		2039-6	Japanese
		2040-4	Korean
		2041-2	Laotian
		2118-8	Middle Eastern
		PORTUG	Portuguese
		RUSSIA	Russian
		EASTEU	Eastern European
		2047-9	Vietnamese
		OTHER	Other Ethnicity
		UNKNOW	Unknown / not specified